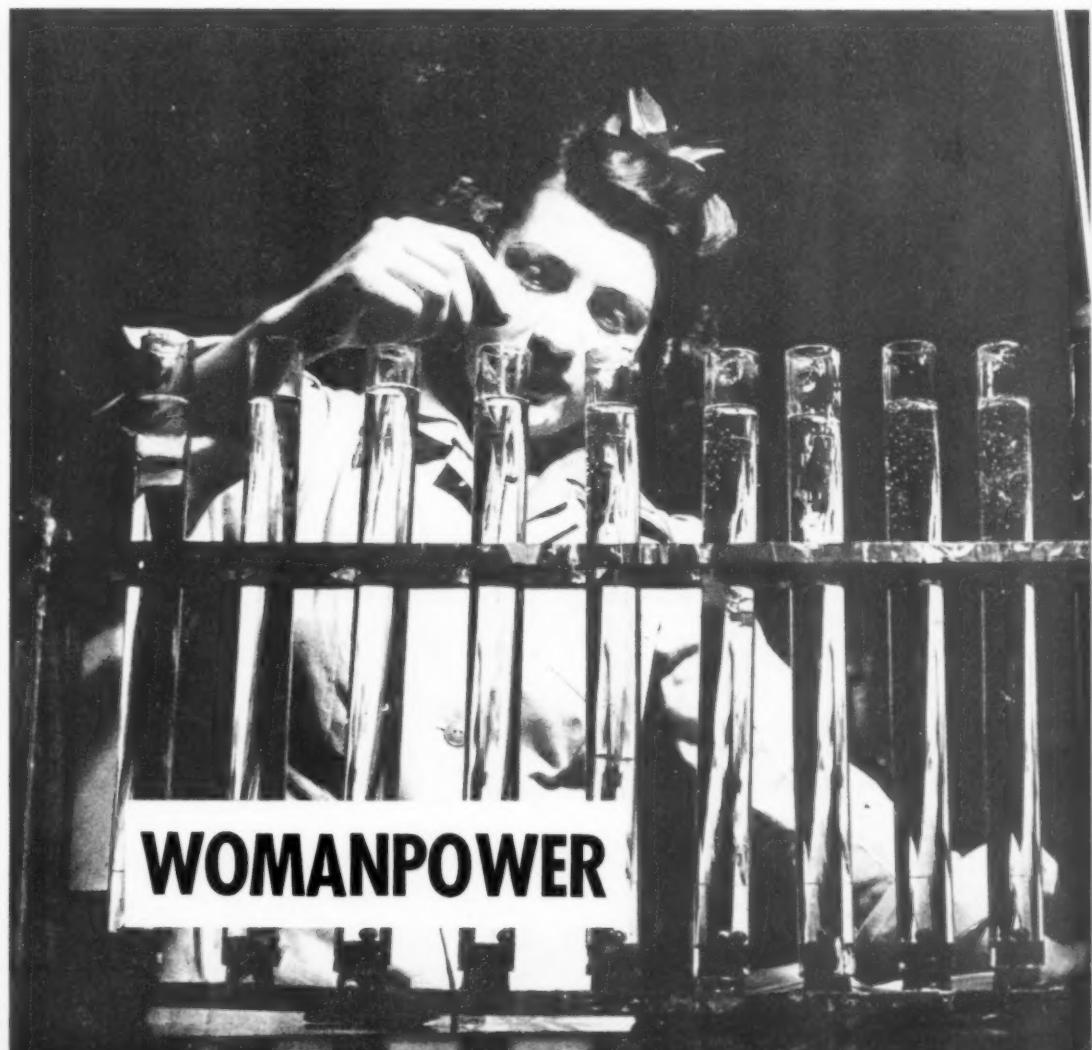


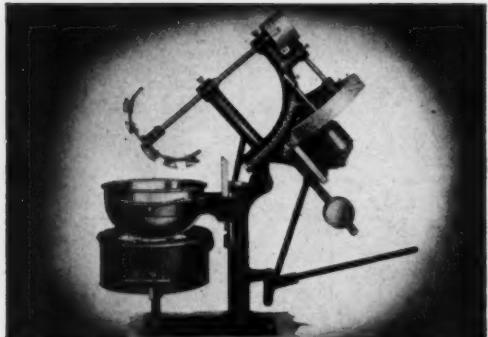


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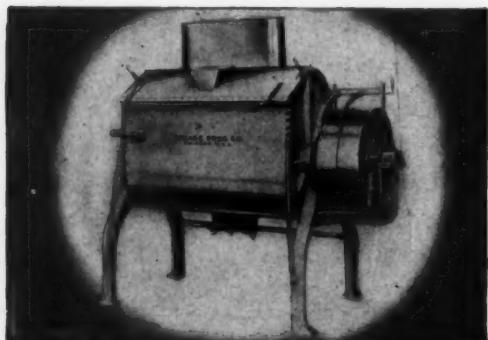
# THE MANUFACTURING CONFECTIONER

PIONEER SPECIALIZED PUBLICATION FOR CONFECTIONERY MANUFACTURERS

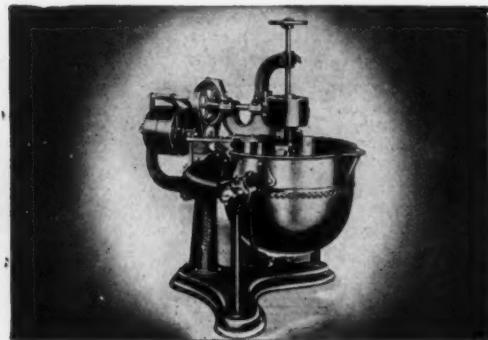




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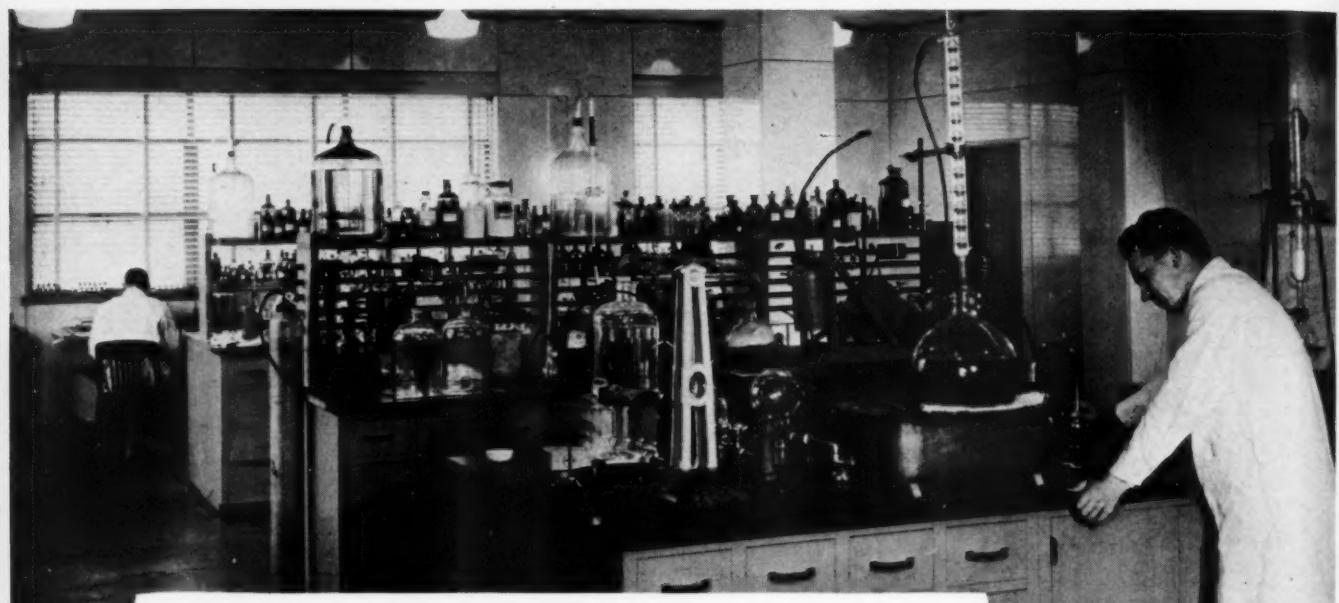
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Vol. XXIII, No. 8

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## ON THE COVER

Women Have Gone To War!  
They are taking their places  
in the laboratory in machine  
shops, production lines and  
are making an important  
contribution to the war effort.  
Cover photo courtesy Monsanto Chemical Company.



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By

Wesley H. Childs  
Research Laboratories,  
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3. GUM and PAN ROOM PIECES

Mr. Childs is no longer active in the candy industry. But prior to his present work, he spent years in the sugar and confectionery industries in responsible positions concerned with chemical control and development. In his research for material for this treatise, he has had the cooperation and assistance of raw materials and equipment experts in our own industry as well as allied fields.

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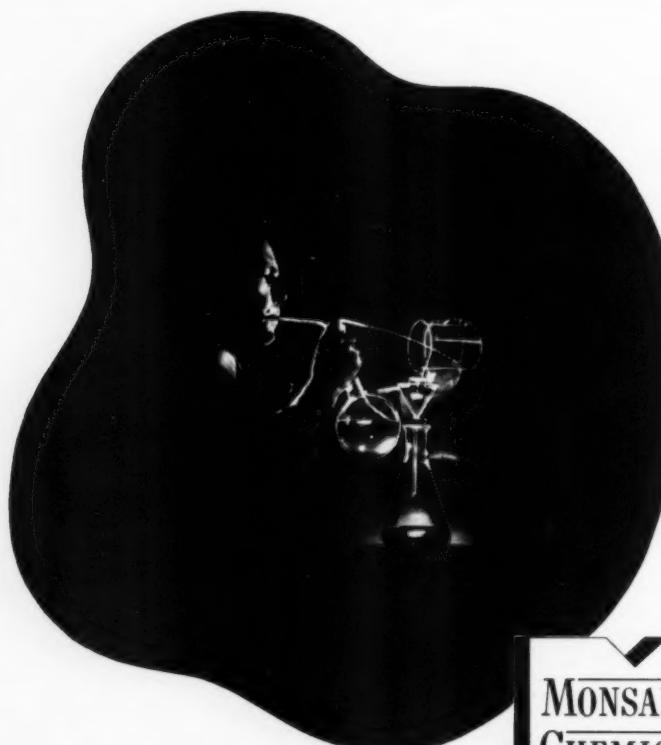
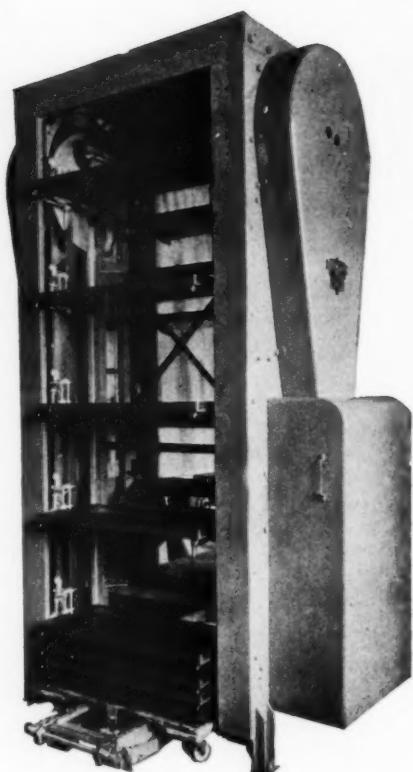
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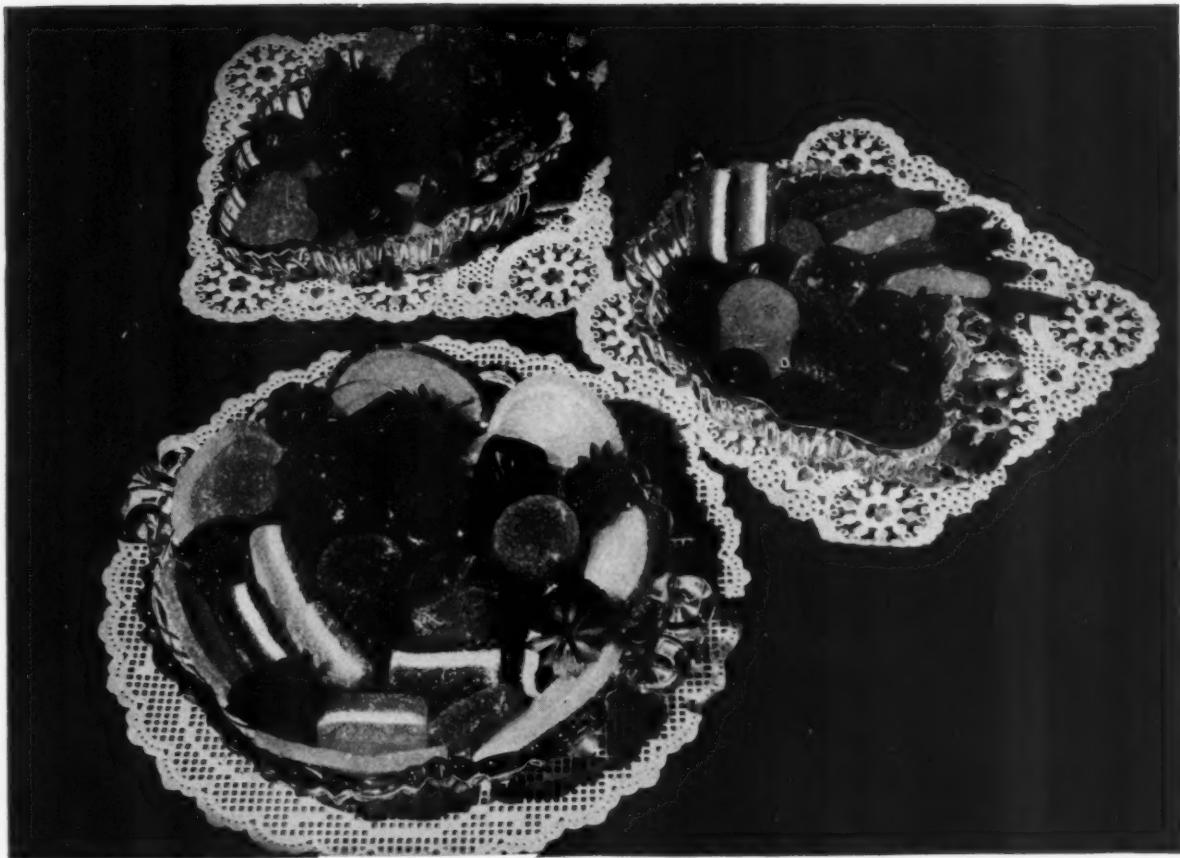
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7. A real time and labor saver.

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# OIL OF

By

DR. ERNEST GUENTHER  
*Chief Research Chemist  
Fritzsche Brothers, Inc.*

THE nomenclature of the plants from which the different commercial spearmint oils are distilled is complicated and confusing; the vernacular term "spearmint" comprises a number of types possessing the well known odor and flavor of this popular mint. The United States and Great Britain raise several varieties of *Mentha spicata* Huds. (*M. viridis* L.), e.g. *M. spicata* Huds. var. *tenuis* (Mchx.) Briq. in North America, and *M. spicata* Huds. var. *trichoura* Briq. in England. *M. spicata* Huds. var. *crispata* (Schrad.) Briq. is cultivated in Germany, and *M. verticillata* L. var. *strabala* Briq. in Russia.

In this paper we shall confine ourselves chiefly to North American spearmint, the United States producing most of the world's output. Like peppermint, our American spearmint has been naturalized from Europe; several varieties may be found growing wild in waste places and marshes from Nova Scotia to Utah, and south to Florida. It is now cultivated extensively in the northern counties of Indiana, especially around South Bend, Bremen and Goshen; furthermore in the southern counties of Michigan, especially around Kalamazoo, Niles and Decatur.

## Must Kill Wild Mint

Before spearmint is planted, any wild mint growing in the neighborhood must be exterminated, as the latter yields an oil of inferior quality. More than 3,000 acres of spearmint are at present under cultivation, about 60 per cent located in Michigan and 40 per cent in Indiana. Total production of spearmint oil in the Middle West amounts to about 100,000 pounds a year.

Spearmint resembles peppermint but does not grow quite as tall; although spearmint stems are not as long as those of peppermint, they stand more erect. The lance-shaped leaves are longer, narrower, lighter green in color, and either without stems or with only very short stems. Instead of being thick and blunt, the flowering spikes are more sharply pointed, long and narrow; thence the designation spearmint. The characteristic odor and flavor of spearmint are caused by its volatile or essential oil which can be obtained by steam distilling the leaves and flowering tops.

Two types of spearmint are grown in Michigan and Indiana: the so-called native American or common, and



This is a close-up of a spearmint plant showing it in bloom. This crop is cultivated around South Bend, Bremen and Goshen, Indiana, as well as in the southern counties of Michigan. Photo by Department of Botany, Purdue University.

# SPEARMINT

Dr. Guenther draws upon his wide experience in studying the uses of essential oils to bring us this important paper on American Spearmint Oil. The U. S. is the chief producer of oil of spearmint.

the so-called Scotch spearmint. It is claimed that the former possesses greater hardiness, being more resistant to bad weather, diseases and insect pests. Scotch spearmint was introduced to this country about 1910. Less hardy than the native type, it is more easily destroyed by frost.

The great advantage of the Scotch spearmint lies in its higher yield of oil per acre; in some instances the increase in yield is said to be 50 per cent. Scotch spearmint has been cultivated

since at least 1910 and still appears to be true to type. Some users prefer oil distilled from the Scotch, others oil from the American variety. The acreage devoted to growing the two types is said to be about equally divided.

The growing of spearmint resembles that of peppermint and has been described most competently in the excellent papers of A. F. Sievers<sup>1</sup> and N. Kent Ellis<sup>2</sup>. Suffice it here to describe only the main points.

Spearmint may be grown in a wide range of soils, loamy upland soil or various types of muck (characteristic of drained, but not overdrained, former swamp lands) being most suited. The ground is prepared as for corn or other grain crops, i.e. by disking several times, harrowing, dragging with a planker, fertilizing and plowing. The better fitted the soil, the cheaper it is to eradicate weeds after planting.

## Planting Done by Hand

The planting is done mainly by hand and usually takes place either from October to November or in the spring. The rows are spaced 36 to 42 inches apart. The rootstocks are laid overlapping one another in furrows, and soil is dragged over them. A small percentage of spearmint has been propagated recently by means of young plants. It is claimed that this method has certain advantages; for instance, the fields may be cultivated right after transplanting. During late June and July, the young plants reach a height of 6 inches and are then transplanted with a cabbage planting machine.

As in the case of peppermint, the growers recognize two stages of spearmint plantings, namely the "row

<sup>1</sup>"Peppermint and Spearmint as Farm Crops," U. S. Department of Agriculture, Farmers' Bulletin No. 1555, Washington, 1929.

<sup>2</sup>"Mint Culture in Northern Indiana," Purdue University, Agricultural Experiment Station, Lafayette, Indiana, Circular No. 227, February 1937.

mint" which consists of one-year-old plantings and the "meadow mint" which term applies to fields two or more years old.

"Meadow mint" may be weeded in the early stages by machines resembling the common harrow, but later, as it grows higher, all weeding must be done by hand. Although a spearmint ("meadow mint") planting may last from five to six years, experienced growers rotate in a three-year cycle because after that the yield of oil per acre becomes uneconomical. In a few sections spearmint has been grown successfully for twenty years but, of course, that is exceptional. The crop should be rotated with corn, potatoes or onions before mint is replanted.

Generally speaking, the growing of spearmint is a much less hazardous undertaking than that of peppermint, the latter plant being more susceptible to diseases and insect pests. The greatest dangers to spearmint plantings are early frost and strong winds during early spring.

Like peppermint, spearmint contains a maximum amount of oil during the flowering stage which lasts several days. The harvesting should be done on dry, warm days but, of course, this rule cannot always be followed, adverse weather conditions sometimes requiring a premature harvest. After maximum bloom, the oil content decreases rapidly.

"Meadow spearmint" flowers in late July and early August, while "row spearmint" reaches that stage about a month later. The plants are cut with a mowing machine and left on the ground to dry for 48 hours or longer, depending upon the weather. The drying must not progress far enough to make the leaves too brittle when handling of the hay would result in a considerable loss of leaves by shattering. The dried material is raked, bunched, loaded on wagons with a hay loader or pitchforks, and hauled to the distilleries.

#### Distillation

Spearmint is distilled in much the same way as peppermint, in a number of small and medium sized distilleries scattered throughout the producing regions. Large-scale growers have their own distillation equipment; the smaller ones have the hay "custom distilled" by still owners.

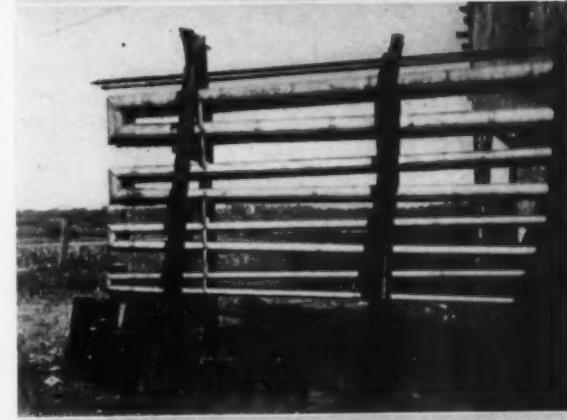
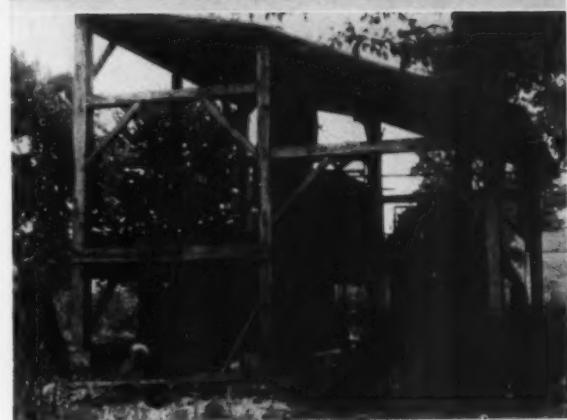
The average distillery contains a high pressure boiler developing at least 80 pounds steam pressure—the low pressure boiler develops practically no pressure, only a volume of steam—furthermore two or four galvanized sheet metal tubs, a condenser for each tub, separating cans built like Florentine flasks, water pumps, and hoists for charging and discharging the herbs from the tubs. The tubs are from 6 to 9 feet deep and 6 to 7 feet wide. The hay or herb material is moistened by steam and tramped into the tubs prior to closing the tubs for distillation.

#### Yield of Oil

Distilling a 3,000 pound charge of herb lasts 35 to 50 minutes and yields about 20 pounds of oil. This yield is slightly higher than that of peppermint. One acre of spearmint may yield from 35 to 40 pounds of oil.

There is very little difference between spearmint oils distilled from "row mint" and "meadow mint." At any rate, the difference is even less pronounced than that

Reading from Top to bottom: The top picture shows a load of spearmint "hay" being hauled to the distillery. Next: A typical spearmint distillery plant. Next: Condensation coils at a spearmint distillery. Bottom: Removing the "charge" of spearmint hay from a distillation tank.



between "row peppermint" and "meadow peppermint" oils.

During the past years, our analytical laboratories have frequently observed a change in the odor and flavor of freshly distilled spearmint oils received from the producing regions in Indiana and Michigan. The difference was particularly marked when these oils were compared with samples of previous years. True, spearmint oil improves with age, one-year-old lots being finer and more characteristic in odor and flavor than freshly distilled oils which somewhat resemble peppermint.

Still, the difference in the quality of the freshly distilled oils was so pronounced that the consuming trade reacted to it. Observers<sup>1</sup> in the field offered the explanation that there has been a gradual change in the Scotch spearmint under continued cultivation. The latter is no longer planted in Indiana and Michigan, roots for new plantings now being taken from fields in which Scotch spearmint has become naturalized.

Ellis and Baines<sup>2</sup> expressed the opinion that in the asexual propagation of Scotch spearmint there is very little likelihood of mutations occurring on a large enough scale to account for changes in the plant type, particularly in the absence of the propagation of individual plant selections by growers. More likely the yearly variations in the quality of spearmint oil are due to seasonal factors and possibly cultural conditions, such as time of harvest, weeds, drainage, and so forth.

#### Physico-Chemical Properties

The United States Pharmacopoeia, Twelfth Revision, specifies the following limits for spearmint oil:

Specific Gravity at 25° C. 0.917 to 0.934

Optical Rotation at 25° C. —48° to —59°

Refractive Index at 20° C. 1.4840 to 1.4910

Carvone Content

(Neutral Sodium Sulfite  
Method)

Not less than 50%,  
by volume.

Solubility

Clearly soluble in  
1 volume of 80% alcohol.

Genuine oils which we received during the past ten years showed constants varying between the following limits:

Specific Gravity at 25° C. 0.921 to 0.933

Optical Rotation —50° 15' to —58° 30'

Refractive Index at 20° C. 1.4851 to 1.4899

Carvone Content

(Neutral Sodium Sulfite  
Method)

57.5% to 71.5%

Solubility at 25° C.

Soluble in 1 volume of 80%  
alcohol; hazy to turbid  
with more.

Spearmint oil invariably contains heavy metals, which can be removed readily by the usual method of treating the oil with a tartaric acid solution.

Since about 1929, we have on numerous occasions observed the presence of organic sulfides in shipments of unquestionably genuine spearmint oil. This has been determined by the test for dimethyl sulfide as outlined in the U.S.P. under Oil of Peppermint.

The presence of dimethyl sulfide in spearmint oils, not observed in former years, decreases their odor and flavor value, imparting a harsh, musty effect which pre-

<sup>1</sup>The writer wishes to express sincere thanks to Messrs. Max and Ben Brown of South Bend, Indiana, for all the courtesy and assistance rendered during his visit to the mint regions.

<sup>2</sup>Private communication of Prof. N. K. Ellis and Dr. C. R. Baines, of Purdue University, Lafayette, Indiana.

viously was absent. No satisfactory explanation has yet been given for the presence, during recent years, of dimethyl sulfide in spearmint oils. It might be possible that some spearmint fields contain weeds of peppermint which are not eradicated in the regular process of weeding. Such an explanation does not seem quite satisfactory, as spearmint is a much stronger plant than peppermint and undoubtedly would crowd out any peppermint weeds.

#### May be Due to Negligence

It would take a great deal more than a stray plant here and there in a field to account for the presence of dimethyl sulfide in spearmint oils to the extent indicated. It is possible, of course, that some growers are perhaps somewhat negligent in removing such peppermint, espe-



A view of a distillery with a load of spearmint hay ready to be unloaded for distillation.

cially since it is not as easily noticed as other more conspicuous plants would be. But the fact that peppermint does not thrive in direct competition with spearmint is a reason for questioning this explanation. What adds to the confusion is the fact that these sulfides occur in spearmint oil more frequently in some years than in others.

In evaluating spearmint oil, consideration should, of course, be given to resinification which readily takes place in this oil. In normal oils the specific gravity and carvone content are in direct proportion. If an oil shows a high specific gravity and a carvone content lower than should correspond to this high gravity, resinification is indicated. A harsh odor and flavor, characteristics of such oils, confirms the suspicion.

#### Chemical Composition

The earliest investigations on the chemistry of spearmint oil date back more than one hundred years; the results, however, were of little value. Gladstone<sup>1</sup> first isolated carvone, the main constituent of spearmint oil, but assigned to it the misnomer menthol. In the course of numerous subsequent investigations, the following compounds were isolated from spearmint oils of different origin.

1-carvone

Identified by Flückiger<sup>2</sup> and by Beyer.<sup>3</sup> Kremers and Schreiner<sup>4</sup> found that American spearmint oil contains about 56 per cent carvone.

<sup>1</sup>Jour. chem. Soc. 25 (1872), 1., Jahrest. J. Chem. 1872, 816.

<sup>2</sup>Ber. d. Deut. Chem. Ges. 9 (1876), 473.

<sup>3</sup>Arch. d. Pharm. 221 (1883), 283.

<sup>4</sup>Pharm. Rev. 14 (1896), 244.

<i>a terpene</i>	B.p. 160° to 167.5°C. at atmospheric pressure, occurs in the American oil, according to Trimble. <sup>5</sup>	<i>lhydrocarveol</i> identified as dihydrocarveol through its esterified with constants; oxidation gave dihydrocarvone, m.p. of the semicarbazone 200° to 201°C., m.p. of the oxime 88° to 89°C.
<i>a 1-rotatory hydrocarbon</i>	B.p. 168° to 171°C. at atmospheric pressure, is contained in the oil, according to Beyer. <sup>6</sup>	<i>possibly also butyric acid caproic acid and caprylic acid a solid acid</i>
<i>1-limonene and probably 1-pinene</i>	According to Power. <sup>7</sup> That 1-limonene actually occurs in American spearmint oil was later confirmed by Nelson, <sup>8</sup> who identified 1-limonene as nitrosochloride and as carvone oxime, m.p. 71° to 72°C.	<i>dipentene and cineol</i>
<i>1-phellandrene</i>	Elze <sup>9</sup> identified this terpene as nitroside, m.p. 105° to 105.5°C., in the lowest boiling fraction of the residual oil, after carvone had been eliminated. Nelson <sup>10</sup> later confirmed Elze's contention.	<i>Occur in German spearmint oil, according to Haensel.<sup>11</sup></i>
<i>acetic acid valeric acid esterified with dihydrocuminic alcohol</i>	Further investigating the above described carvone free residual oil, $d_{15}^{25}$ 0.917, $aD -28^{\circ}0'$ , Elze <sup>11</sup> found that it contained 18 per cent ester, calculated as acetate of dihydrocuminic alcohol. Fractionation gave a first fraction containing 1-phellandrene (see above) and another fraction possessing a pronounced spearmint odor. The saponification liquor of the last named fraction contained acetic and valeric acid, while 15 per cent of the alcoholic portion consisted of dihydrocuminic alcohol, $d_{15}^{25}$ 0.9539, $aD -30^{\circ} 15'$ , m.p. of the naphthyl urethane 146° to 147°C.	<b>Russian Spearmint Oil</b>
	Since the characteristic odor of spearmint disappeared when the oil was saponified, Elze came to the conclusion that dihydrocuminal acetate is the carrier of the typical spearmint odor. That this ester actually possesses a strong spearmint-like odor had previously been pointed out by Walbaum and Hüthig. <sup>12</sup>	The Russian oil differs from American, English and German spearmint oils in regard to its carvone content (low) and its content of linalool and cineol (high). The odor of the Russian oil is flatter and not nearly as pronounced as that of the American type.
	Investigating a genuine American spearmint oil—	Investigating a Russian spearmint oil, the Schimmel chemists <sup>13</sup> identified the following constituents:
		<i>1-linalool</i> The oil contains about 50 to 60 per cent of this terpene alcohol. It was isolated from the fraction b.p. 196° to 200°C. at atmospheric pressure, $aD -17^{\circ}37'$ . Oxidation gave citral, m.p. of the citryl-β-naphthocinchoninic acid 197°C.
		About 20 per cent of the oil consisted of a fraction b.p. 170° to 175°C. at atmospheric pressure, $aD -24^{\circ}54'$ . Reaction with iodol gave a crystalline addition product m.p. 113°C.
		The same fraction yielded a nitrosochloride m.p. 100°C., probably limonene nitrosochloride.
		Identified in the highest boiling fraction, m.p. of the $H_2S$ compound 210°C. to 211°C. Russian spearmint oil contains only 5 to 10 per cent of carvone.
		According to Kusner and Grinberg, <sup>14</sup> a Russian spearmint oil produced in the Ukraine contained 56 to 65 per cent cineol and linalool, 12 to 13 per cent carvone, and some limonene.
		It appears not unlikely that some of the differences in the physical-chemical properties and the flavor of oil of spearmint produced in different countries is due to varietal differences as mentioned under "Botany, Habitat and Range."
		Oil of spearmint finds wide application, especially in the flavoring of chewing gums and lately also in tooth pastes. This oil does not possess the medicinal virtues of peppermint oil; consequently, only about one-tenth of the total mint acreage is devoted to spearmint cultivation.

<sup>5</sup>Amer. Jour. Pharm. 57 (1885), 484.

<sup>6</sup>Op. cit.

<sup>7</sup>"Descriptive Catalogue of Essential Oils," Fritzsche Brothers, Inc., New York, 1894, 33.

<sup>8</sup>U. S. Department of Agriculture, Bureau of Chemistry, Circular No. 92.

<sup>9</sup>Chem. Ztg. 34 (1910), 1175.

<sup>10</sup>Op. cit.

<sup>11</sup>Op. cit.

<sup>12</sup>Jour. f. prakt. Chem. 71 (1905), 472.

<sup>13</sup>Op. cit.

<sup>14</sup>Ber. d. Deut. Chem. Ges. 47 (1914), 2623.

<sup>15</sup>Op. cit.

<sup>16</sup>Chem. Zentralbl. 1907, I. 1332.

<sup>17</sup>Jour. Applied Chem. (U.S.S.R.) 8 (1935), 1221, Chem. Abstract 30 (1936), 6129.

# An "Ounce of Prevention" Pays by Keeping the Machinery Running

By JOHN H. BIER

*Works Manager  
National Candy Company*

This is the third of a series of articles on plant management written especially for *The Manufacturing Confectioner*.

Cleanliness is of extreme importance in a candy factory, both from the standpoint of pure products, and from that of maintenance. Clean equipment, particularly motors, pumps, etc., will last much longer and require fewer repairs than would be the case if neglected. When sugar and candy accumulates and burns to a glassy hardness on certain kinds of equipment, these machines frequently have to be stripped and overhauled before they will function properly again. One of the best examples of this is the ball machine rollers in the hard goods department. If the chips and dust are allowed to accumulate over long periods, it will cause trouble, particularly with bad humid conditions.

Candy-making equipment, such as marshmallow beaters, kettles, mogul depositors and pumps, hard candy machines, revolving pans, enrobers, etc., are always cleaned in our plants, after each time used, by the candy production crew. This is figured as part of the labor cost by allowing approximately 20 minutes at the end of each day and considering it as running time.

Other equipment, particularly motors, bearings, sieves, fans and blowers, conveyors and variable speed controls and corn syrup, water and brine pumps are kept clean by the maintenance crew. The departmental mechanics are responsible for the condition of the equipment in their particular area, and other special mechanics look

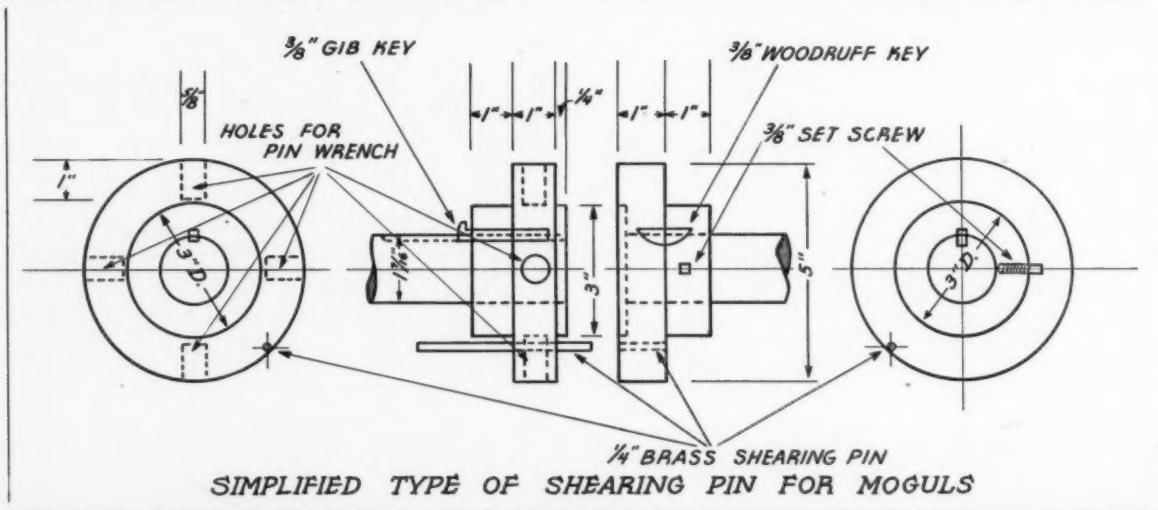
after special types of equipment such as refrigeration, starch dryers, etc.

## Electrician Has Responsibility

The electrician is charged with responsibility of keeping motors, fans, and automatic switches clean as well as in good repair and no fan is put away for the winter unless it is in tip-top shape, ready to be returned to office or elsewhere when needed. Spare motors are always kept in first class condition, ready to take care of the emergency when it arises.

Cleaning of equipment of this nature is scheduled regularly but any spare time, early in the morning or on week-ends, is also used to full advantage for this work. All motors on moguls, depositors, and starch dryers are taken down, overhauled and thoroughly cleaned twice each year.

Clean, bright surroundings help tremendously in selling the mechanics on the idea that clean equipment lasts longer. Why do candy manufacturers keep their offices and display rooms bright and clean and then expect good results from mechanics and engineers working in basements that are dirty, poorly ventilated and very often poorly lighted? A coat of good paint on machinery and other candy factory equipment will do wonders in



helping to keep them clean and at the same time raises the morale of the workers.

### Lubrication

It seems hardly necessary to dwell on the importance of proper lubrication. Machinery manufacturers give full instructions with all new equipment, and oil companies keep the mails loaded with information on this subject. In spite of all this free help, a part of all repair work is caused by lack of good lubrication and probably the main reason is forgetfulness. In the early days of automobiles, greasing was not very scientific, but since the advent of check-chart lubrication, there is no excuse for overlooking any part of the machine.

Generally, lubrication is scheduled. For example, moguls and depositors every morning, others once or twice a week, etc., but why shouldn't it be a good idea to make up a chart of all points to be oiled and greased, and insist on the proper person checking off each item at the time the work was done?

Generally, all lubrication is taken care of every morning by the mechanical crew and mechanic helpers, and the candy production men have nothing to do with this work.

Elevators are thoroughly checked for oil and grease regularly once a week.

It is also important that oils and greases be kept clean. We use special containers with extra lids to prevent chips and other foreign matter from getting into the lubrication. A bearing may be well lubricated and still fail because of foreign particles getting into the oil containers.

### Prevention Cheaper Than Cure

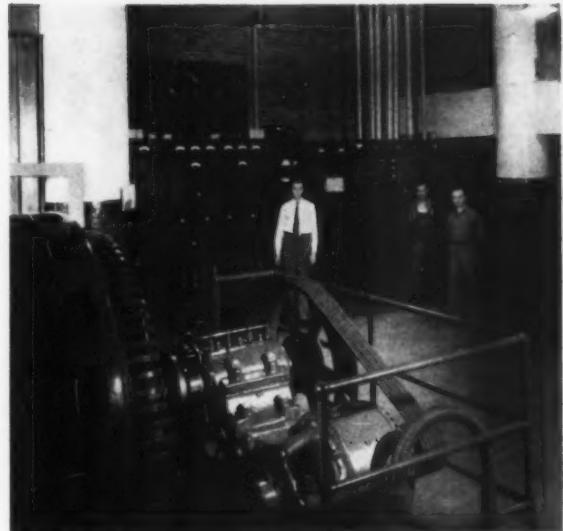
"A disastrous fire, explosion, strike or other work stoppage is usually spoken of in terms of dollars of insured value, or in terms of man hours lost. How about the profits on merchandise that could have been manufactured and sold if work had not stopped? Breakdowns due to faulty maintenance are usually small, but numerous, and can cause just as great a loss in total as some big catastrophe," said Dr. Bier in concluding his first article. Prevention of breakdowns is a prime job of the maintenance department.

The five "M's" of plant management, men, materials, machinery, methods, and money were discussed in the second article of this series. Each item is vital to the success of the whole.

"Emergency repairs," says Mr. Bier, "are usually the hardest to handle for obvious reasons. They usually happen at the most inconvenient times and cannot be scheduled or assigned. Fortunately, we have had few large repair jobs of an emergency nature in the last few years and I am sure it is the result of a good maintenance program and a well-organized repair department." Men, methods, materials, money and machinery, all working together make successful maintenance possible.

There is a special white grease recommended for use in food plants.

Refrigeration and starch conditioning are very important in modern candy plants and we have two good men detailed exclusively to look after these two jobs. Constant checkup, regulating, cleaning and lubricating schedules are maintained on this type of equipment and



Another view of the National Candy Company's engine room. Note the scrupulous cleanliness of the room which is one of the points of good plant management which Mr. Bier has emphasized. the performance record to date has been very good.

### Constant Supervision Important

Minor adjustments and repairs are made by these two men but the major repairs (such as replacing leaking tubes in Huhn dryers) and pipe line work is done by the regular mechanical crew. In other words, we feel that constant supervision of refrigeration and starch conditioning is so important that we only trust good reliable and experienced men with the care of this equipment which can hardly be replaced today at any price.

Shearing pins on moguls can also become a source of trouble. Pins made out of drill rod are very hard to secure so we rearranged the flanges on this part of the mogul in order to use soft steel or brass. (see drawing) After the emergency is over, it will be comparatively easy to go back to drill rod for these pins.

### N.C.A. Research Headed by Paine



Dr. H. S. Paine

Dr. H. S. Paine, Chief, Agricultural Chemical Research Division, Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, and for many years a technical adviser of THE MANUFACTURING CONFECTIONER, has been selected to head a research project on candy to be established in the Department of Agriculture for the purpose of doing experimental work on the nutritive content of candy. The work is a cooperative program between the Department of Agriculture and the National Confectioners' Association, according to Philip P. Gott, N.C.A. president, Dr. Paine has been connected with the U.S.D.A. for 25 years and, in the 1920's, had supervision over a similar candy research project. Dr. W. W. Skinner, Chief of the Bureau, will have general supervision over the experimental work. Dr. Paine was the co-author with Mr. J. Hamilton of a booklet, published by THE MANUFACTURING CONFECTIONER, entitled "Improved Methods in the Manufacturing of Fondant Goods."

# TECHNICAL LITERATURE DIGEST

By K. E. LANGWILL, Technical Editor

## Food Packaging Research

D. W. Grover, *Food Manufacture*, Vol. 17, No. 7, 185-87 (1942).

Specially treated papers of the waxed, glassine, parchment and other types compete with regenerated cellulose film and rubber-derived film. Many of these special films are adapted for heat-sealing which is of considerable advantage in production.

A primary requisite for these materials is mechanical strength. Tests for this are fairly well standardized but those for protection against moisture, grease and satisfactory hygienic quality are not so well developed. Papers and other wrappings to be used in contact with foods should be as pure in the hygienic sense as the foods themselves.

## Digestibility of Some Animal and Vegetable Fats

Ralph Hoagland and George G. Snider, *J. Nutrition* Vol. 25, 295-302 (1943).

In view of the world shortage of many kinds of food fats, the true digestive coefficients of several animal and vegetable fats were determined by experiments with young male albino rats. When the diets contained 5% of fat, the following digestive coefficients were obtained: coconut oil 98.9, soybean oil 98.5, corn oil 97.5, butterfat 88.3, mutton tallow 74.6, oleo stock 74.0 and cacao butter 63.3%.

When the diets contained 15% of fat, the digestive coefficients were as follows: soybean oil 98.3, corn oil 98.3, coconut oil 96.5, butterfat 90.7, oleo stock 86.7, mutton tallow 84.8 and cacao butter 81.6%.

## A Study of Methods of Accelerating The Swift Stability Test

V. C. Mehlenbacher, *Oil and Soap* Vol. 9, No. 8, 137 (1942).

Probably the most satisfactory and most common method used to measure the antioxidative properties of fats and oil is that method which accelerates the development of rancidity by aeration at a temperature of 97.7°C (208°F) to certain predetermined peroxide levels. A comprehensive study has been made of the effect of temperatures. Data point to the fact that satisfactory correlation with existent data can be obtained at 110°C

with a saving of 60% of the time previously required to complete the test. The ratio of time required on the old to the accelerated basis is 2.5. This figure is an average of all results obtained.

## Refractive Indices of Invert Sugar Solutions And The Correction Factor of De Whalley

F. W. Zerban, *J. Assoc. Official Agr. Chem.* Vol. 26, 143-50 (1943).

A refractive index table for invert sugar solutions has been computed on the basis of de Whalley's experiments. It is shown that the de Whalley correction factor increases with the total solids concentration irrespective of whether invert sugar is present alone or in mixture with sucrose, but that at one and the same concentration of total solids the correction factor is practically constant.

The correction factor for inverted sucrose sirups varies within wide limits, depending on the exact inversion procedure, but the average factor of 0.022 may safely be used for practical purposes.

## COMMENTS ON CANDY

The gratification of an almost universal sweet tooth in this country has created a problem of considerable concern to nutritionists interested in public health. In 1941 about 40 per cent of the total candy sold was manufactured in the form of bars. These bars contained several food products in addition to sugar such as sweetened condensed milk, milk powder, milk chocolate, malted milk, molasses, nuts, peanuts and eggs. Certain bars supply appreciable amounts of protein, calcium, iron and riboflavin.

Three possible approaches which might be given serious consideration in solving the problem are the following: first, attempt to educate the public to use more nutritious candy products; second, encourage the manufacturer to produce more nutritious products; and third, arrange a program which would tend to shift the use of candy from a between meal confection to a part of the regular meal.

The Council on Food and Nutrition of the American Medical Association has advocated the combination of sugar with other foods of high nutritional quality.

C. A. Elvehjem, *WHAT'S NEW IN HOME ECONOMICS*, Vol. 7, No. 9, p. 31 (1943).

higher over-runs to be used to offset increased costs and to obtain a better product. At the present time the sugar shortage is perhaps not sufficiently acute to make the substitution of milk solids for sugar economically feasible.

## Identification of Sugars

W. Z. Hassid and R. M. McCready, *Ind. & Eng. Chem. Anal. Ed.* Vol. 14, 683, (1942).

Twenty photomicrographs of phenylhydrazine derivatives of the commonly occurring hexoses, pentoses, methyl pentoses, disaccharides, uronic acids and hexosephosphates are shown. By observing the crystal from the osazone under the low power of the ordinary microscope, a particular sugar may be tentatively identified. Further confirmation is desirable from melting point determinations or from a study of the optical properties.

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# NEWS OF THE SUPPLY FIELD

EQUIPMENT · MATERIALS · MARKET INFORMATION · FIRMS · PERSONALS

## Florasynth Executive Travels

An extensive trip, including both the U. S. and Mexico, has recently been completed by Dr. Alexander Katz, executive and chief chemist of the Florasynth Laboratories, Inc. During this trip, Dr. Katz not only visited the various Florasynth plants and offices, but also made a study of conditions affecting the production of synthetics and flavorings, as well as research and market conditions of raw materials during the present emergency.

## Dr. Katz Lectures at Colleges

Dr. Alexander Katz, chief chemist of the Florasynth Laboratories, Inc., has recently found time to be a guest instructor at several of the more important colleges and universities in the United States despite the pressure of his regular work.

## Lundin Joins Monsanto Staff

Harry W. Lundin, formerly with the Liberty Mutual Insurance Co., has become a member of the staff of the Monsanto Chemical Co., as director of the safety and plant protection section of the department of industrial relations according to James W. Irwin, assistant to the president.

## B<sub>1</sub> Price Is Reduced

Hoffmann, La Roche, Inc., have announced a reduction in the price of B<sub>1</sub> by \$30 effective as of July 27. The new schedule sets the price at \$290 per 100 grams or more, bulk, per kilogram. This compares with \$410 last July. The price is 32c per gram in lots less than 100 grams. Vitamin C has been reduced 10c per ounce.

## Oat Product for Agar Replacement

"Gum-Oat", a pure oat product which has unusual gum-like, stabilizing and thickening properties may be found valuable in partial replacement for pectin, agar, gelatin, locust bean gum and other expensive and scarce stabilizers normally used. This product appears to give a body and texture that is equivalent to three to four pounds of powdered skim milk, and can be used on a pound for pound basis in place of 50% of pectin, agar, gelatin, etc.

## Offshore Sugar Entries Reduced

The quantity of sugar entered for consumption from all offshore areas during January-May amounted to 1,721,346 short tons, raw value. For the corresponding period last year, the quantity entered totaled 1,751,019 tons. The figures are subject to change after final outturn weights and polarization data for all entries are available.

## "SYNTHETIC FLAVORS DUE FOR WIDER USE"

EXTRACT FROM NEW YORK TIMES, MAY 25, 1943.

Users of Flavors are recommended to get samples and prices of Synthetic Flavors and Synthetic Essential Oils from STANDARD SYNTHETICS, INC., 119 West 25th Street, New York City.

Whatever product you manufacture, STANDARD SYNTHETICS, INC. have the correct grade of flavor at a reasonable price. Please inquire for such flavors as:—

Synthetic Strawberry, for Ice Creams, Sherbets, Hard Candy, or Syrups.

Synthetic Cassia, or Cinnamon, either oil or powdered—for Candy-Bakery, or Chewing Gum.

Synthetic Anise, for Candy.

Synthetic Vanilla Extract, highly concentrated, for ice creams.

Synthetic Chocolate Flavor, for all purposes.

Synthetic Oil of Lemon, for Candy.

Synthetic Oil of Peppermint, for Candy.

Synthetic Pineapple, a specialty—for all purposes.

Also Synthetic Peach - Apricot - Maple - Raspberry - Grape - Wild Cherry - Kola - etc. etc.

When writing, please say what product the Flavor is for, and any Flavor not mentioned above can be supplied.

**STANDARD SYNTHETICS, Inc.**

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Feature them in all your packs and assortments.

They have a superior quality your customers recognize. The boys in our armed forces are eager for those tangy, fruit flavored Pectin Candies too.

**FIRST CHOICE FOR PROFITS:** EXCHANGE Citrus Pectin Candy cuts production time—sets and is ready for "sanding" in a few hours—packs easily in bulk. With EXCHANGE perfected formulas, you can be sure of a good batch—and good profits.

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## Foil the Saboteur!

To reveal any attempt to tamper with fire extinguishers, American-LaFrance-Foamite Corporation, have introduced a new inexpensive extinguisher container known as the Tamperless Case. Constructed of non-critical, tough cardboard stock, it safely houses the extinguisher from the reach of unauthorized persons, and yet allows of instant removal for legitimate use.

## X-Ray Device for Food Use

A new, safe, simple, easily operated X-ray apparatus, which has a wide application in the instantaneous fluoroscopic and radiographic internal examination of foods, drugs, and other products is announced by a New York firm.

## "Stoy" Makes Its Appearance

Although manufacture has already been started on a new soy flour, "Stoy", nation-wide distribution will not start, say the makers, until its new half-million dollar plant is finished at Decatur, Ill.

## "Bobs" Changes Its Name

On July 1, 1943, the name of Bobs Candy & Pecan Co., was changed to Bobs Candy & Peanut Co. Its charter of incorporation was surrendered and the business will now be operated as a partnership. There will be no personnel changes nor changes in the handling of obligations.

## Fly Chaser Fan is Success

The new Reco fly chaser fan has proven a boon to those engaged in food distribution or processing. It eliminates the fly pest, according to the company. The fan is designed to protect doors or windows, counters, vats, tables, etc., from flies.

## Almond Growing in Africa

Each year, an increasing number of citrus fruit trees are set out in the Marrakesh district of French Morocco. Almond growing in the Marrakesh region is widespread and active, since the trees need little rain and require only a light soil. There were more than 1,520,000 trees in the district in 1936.

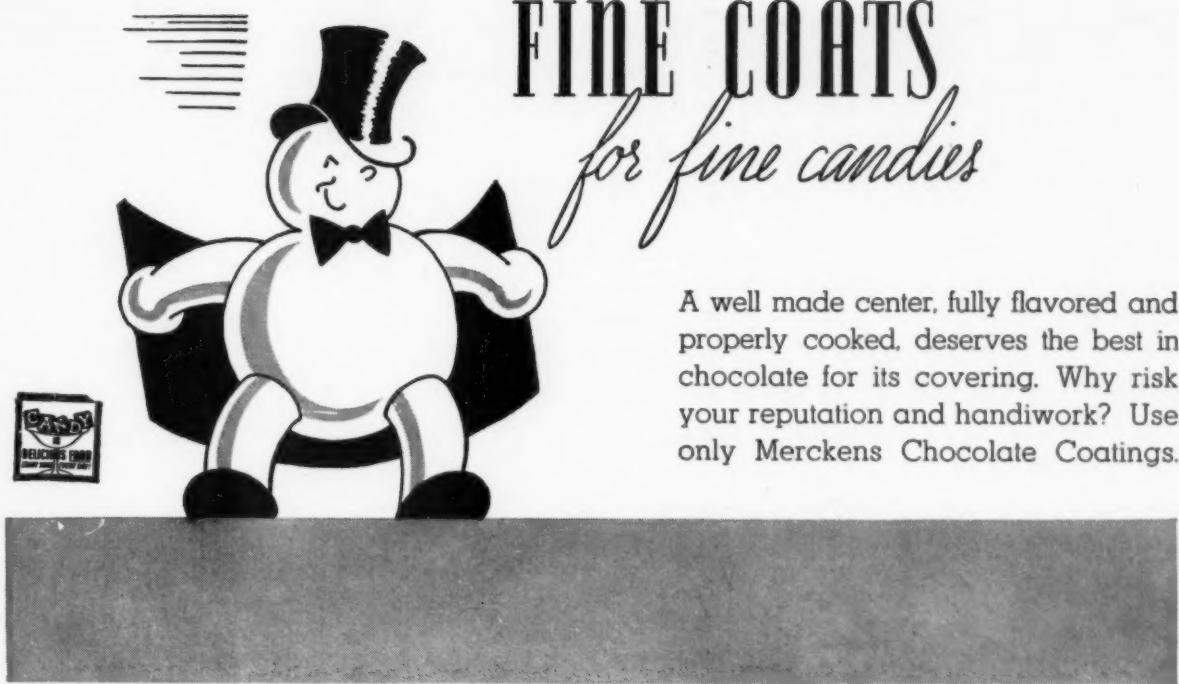
## SMALL TOYS, NOVELTIES & CONTAINERS...



We still have a good assortment of very desirable merchandise for regular and holiday trade. We also have in stock a full line of imported cotton Easter chicks and rabbits. BE SURE TO VISIT OUR SHOWROOM WHEN IN NEW YORK.

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### Combat Troops Welcome Liberal Candy Issue

There is little doubt that liberal issue of candy by the Army to troops in combat zones is welcomed by the soldiers. Energy building, palatable sweets are purchased in tremendous quantities at the U. S. Army, Jersey City Quartermaster Depot, commanded by Colonel George F. Spann, QMC. Recommended by Special Service Officers for its beneficial morale value, candy is an important part of the Army's menus:

This hard candy is issued in metal-end, glassine-lined fibre containers of five pounds each, packed eight containers to a wooden case which is double-strapped for export. It is peach-stone or lemon-drop in shape and sugar-coated to prevent the candy from sticking. Fifty percent is peppermint flavored, the balance made up of cherry, orange, lime, butter, anise, clove, raspberry, strawberry, wintergreen, lemon, root beer, coconut, cinnamon, grape or pineapple.

"In one month of this year, purchases reached a total of 9,000,000 pounds," stated Captain Edward A. de Lima, QMC, Purchasing and Contracting officer. "Samples of all candy to be furnished on Army contracts are obtained by the Jersey City "QM" Depot before issuing any awards and unless these candies meet the high-quality, Army standards, they are rejected. Actual inspection of individual lots in carload quantities are made by the Food Distribution Administration.

Additional inspection in the Depot laboratories includes physical examination for workmanship, appearance and taste. A chemical analysis is also made to deter-

mine that proper amounts of sucrose and dextrose are present, that the candy does not contain too much citric acid, and that the moisture is below the prescribed maximum to aid in preventing the candy from sticking.

#### Brazilian Government Buys Cocoa

The Brazilian government cocoa institute will buy all Brazilian cocoa production and will resell it without profit to help planters to dispose of their crops without waiting for purchasers or shipping space.

#### College Gives Candy Course

A tuition-free course in Sanitation Problems in Food Handling and Processing will be given this summer by the Manhattan College of Engineering in cooperation with the New York City health department. The course will include studies in "Confectionery and Bakery."

#### Wulfekuhler on Bank Staff

Eugene Wulfekuhler has been elected Vice President of the Fidelity Saving Bank of Ottumwa, Iowa. Wulfekuhlers, father, grandfather and uncles and cousins were in the banking business for many years in Kansas City, Missouri. Wulfekuhler still retains his interest in the Walter T. Hall Candy Company with which he has been identified for the past 25 years as a general manager. The plant will be run by Frank Petrovic who is well known in the candy industry, and has been employed the last six years as a superintendent, production manager, and cost accountant.

How to KEEP YOUR  
COFFEE PRODUCTS  
**FRESH**

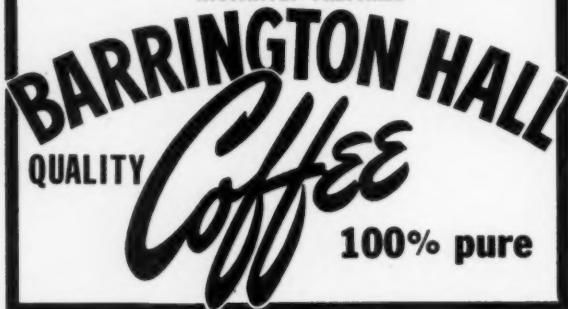
The crude oils which become rancid and stale coffee and the products they enter have been removed from Barrington Hall Instantly Soluble Coffee. Use this 100% pure coffee for flavoring and thereby assure the freshness of your coffee products.

BAKER IMPORTING CO.

NEW YORK  
132 FRONT ST.

MINNEAPOLIS  
212 N. SECOND ST.

INSTANTLY PREPARED



**MAPLEINE**  
**BOOSTS**  
CHOCOLATE FLAVOR

YOU can't get more chocolate but you can make what you have go farther—with Mapleine. **Mapleine Fortifies Chocolate Flavor.** It has the peculiar ability of bringing out every bit of chocolate flavor. So when you boost chocolate flavor with Mapleine you can use less chocolate in toppings and bar goods. Try Mapleine as a chocolate fortifier in your own formulas. Doesn't require formula changes.

Mapleine also helps spread scarce flavors, fruits and nuts. A popular flavor for fondants. Easy to use—concentrated. Won't cook out, won't change in storage.

\* LEARN more about Mapleine. Order from your supplier or direct from Crescent Mfg. Company, 659J Dearborn St., Seattle, Wash.

**MAPLEINE**  
IMITATION MAPLE FLAVOR  
The "Extra Help" Flavor in Wartime



## CONFECTIONERS' BRIEFS

### Candy Is Battle Equipment

When a newspaperman in Africa inspected the pockets of a typical Yank infantryman just before the doughboy went into battle, here is what he found: *Two candy bars*, a penknife, *two sticks of gum*, a rabbit's foot, a Boy Scout compass, a pencil sharpener, the stub of a pencil, a whistle, a letter from his girl, a pair of shoe laces, a pack of cigarettes and a key for his car (which was in dead storage, in a garage back in Salt Lake City, Utah).

### Ambassador of Good Will

According to an Associated Press correspondent, the American soldier has his own method of promoting international friendship in North Africa. The method is simple and direct—just giving away candy and chewing gum and cigarettes. The natives have come to regard the Yank as a walking dispensary of sweets and smokes and follow him eagerly waiting for candy or cigarettes.

### Candy Places Second in PX Sales

Candy is the second largest single seller at the four Post Exchanges at Tinker Field of Oklahoma City Air Service Command. Taking first place is tobacco while stationery runs third.—*N.C.A. Bulletin*.

### Chocolate as Base for Vitamin C

Candies made by compression offer a fairly stable base for ascorbic acid (vitamin C), according to the findings of Dr. John C. Bird of the Vick Chemical Co., N. Y. An article appearing in *Drug Trade News* stated that samples containing two percent of the vitamin have been kept for six months at room temperature with less than one percent loss.

### "Crystals of Color"

"Crystals of color are the modern coloring materials for candies," according to the Peerless Color Laboratories, who are makers of pure food colors. "Crystals of Color" have U. S. Government certification of purity. They are in fine granular form, practically dustless, and are immediately soluble in any mixture, and come in assorted pastel shades.

Since 1881, The Hubinger Co., Keokuk, Iowa

# HUBINGER



Our service departments will help you with any of your technical problems.

\* \* \*

### UNIFORM...DEPENDABLE

Confectioners' Corn Syrups, Thin Boiling Starches, Moulding Starch

**OK** Brand

THE MANUFACTURING CONFECTIONER

### Pectin Outlook Good

The pectin industry expects 1943 production to be adequate for civilian as well as military and Lend-Lease requirements, the WFA reports. The situation was discussed at a recent meeting of the Food Distribution Administration's Pectin Industry Food Advisory Committee. It was pointed out that the production of pectin this year will be the equivalent of approximately six million pounds of the powdered product—nearly twice the normal output. The 1943 outlook encourages home jelly and jam makers, as a substantial amount of pectin is used for that purpose.

Mr. Elmer Wieda, president of the Associated Retailers Association. Mr. Wieda was elected during the June meeting in Chicago. He is president of Wieda's, Inc., Patterson, New Jersey.



### Alaska Getting Candy

In answer to a recent query, Mr. H. L. Brown of Brown & Haley, Manufacturing Confectioners, Seattle, says that "for many months there was very little candy going to Alaska. This was primarily because of transportation. However, during the past few months the government has eased up on transportation for articles such as confectionery and I personally think that Alaska is really being better taken care of than anybody here in the States, for the reason that most of the manufacturers realize that any candy going into Alaska they get their sugar back on, and we find that they are all scrambling for that business, and candy is now going to Alaska from practically every state in the Union. It is one place where the civilians get just about as good a break as the soldiers do."

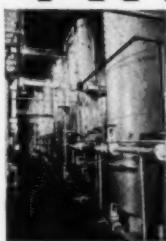
### Sugar Prospects Improved

The WFA has announced that the current level of domestic consumption probably can be maintained—at least it is expected that there will be no further curtailment before September 1. The total quantity of sugar expected to be available in the U. S. this year from all sources is 5,753,000 short tons, raw value. Of this, it is estimated that 2,058,000 tons will come from continental production and 3,695,000 tons from off-shore areas.

## VANILLIN

LIGNIN VANILLIN, C. P.

A Finer Vanillin of Exquisite Aroma.  
A NATURAL SOURCE Vanillin originated and manufactured in the United States.  
AROMATIC CHEMICALS AND ESSENTIAL OILS FOR FLAVORING PURPOSES.



Interior of Factory

AROMATICS DIVISION  
GENERAL DRUG COMPANY

644 Pacific St., Brooklyn, N. Y.  
9 S. Clinton St., Chicago  
1019 Elliott St., W., Windsor, Ont.

## TOP Performance!

Top performance requires unquestioned quality plus wide experience. You get all in our

### 9 BURRELL Stars

- ★ CRACK-LESS Glazed Enrober Belting
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- ★ White Glazed Enrober Belting  
(Double Texture; Single Texture; Aero-Weight)
- ★ Batch Roller Belts (Patented)
- ★ Feed Table Belts (Endless)
- ★ Bottomer Belts (Endless)
- ★ Carrier or Drag Belts
- ★ Cherry Dropper Belts
- ★ Innerwoven Conveyor Belting

Proven ability to "take it" has placed BURRELL Belting in practically all Confectionery Plants. Why not yours?

"BUY PERFORMANCE"

BURRELL BELTING COMPANY

413 S. Hermitage Ave., Chicago, Ill.



more

BACK HIM UP-BUY WAR BONDS

HOOTON CHOCOLATE CO.  
NEWARK, N. J. • ESTABLISHED 1897

# **Food Will Win the War**

You can be proud of the role that candy plays both on the war front and production front. For, not only is candy a delicious food, but also it is a fighting food — yes, even a morale building food. "King Corn" provides several vital ingredients, and gives energizing sweetness and smooth, rich body. Although today Penick & Ford's is a war-food plant, nevertheless we value the Confectioners' business and will do our best to continue deliveries of Penford Corn Syrup, Confectioner's "C" Starch, and Douglas Moulding Starch.



# PENICK & FORD Ltd. Inc.

420 Lexington Avenue, New York 17, N. Y.

Factory . . . Cedar Rapids, Iowa

## Builders of...

**Cooling Slabs  
Tilting Kettles  
Tanks  
Stationary Mi**

**Revolving Pans  
Vacuum Pans  
Coils  
Open-Fire Work**

## *Repairs a Specialty*

# **ACME COPPERSMITHING CO.**

**2535 MAYPOLE AVE.**

**Chicago, Ill.**

**★ CLEANING  
TIPS  
for wartime  
confectioners**

## **Keeping Copper Kettles Sanitary and Bright!**

more easily and thoroughly  
... give kettles the immac-  
ulate appearance you want.  
Write today!

OAKITE PRODUCTS, INC.  
36C Thames Street, New York, N. Y.  
Technical Service Representatives in Principal  
Cities of the United States and Canada

**OAKITE**  
*Specialized CLEANING*

To keep your copper kettles in sanitary, bright condition, let specialized Oakite alkaline and acid-type materials help you simplify this job.

You will find that using these Oakite materials as directed will enable you to remove burnt-on and other deposits

## Citrus Oils Production Taken Over by the U.S.

*By J. L. HEID, Chemist in Charge Agricultural Research Administration, U. S. Citrus Products Station.*

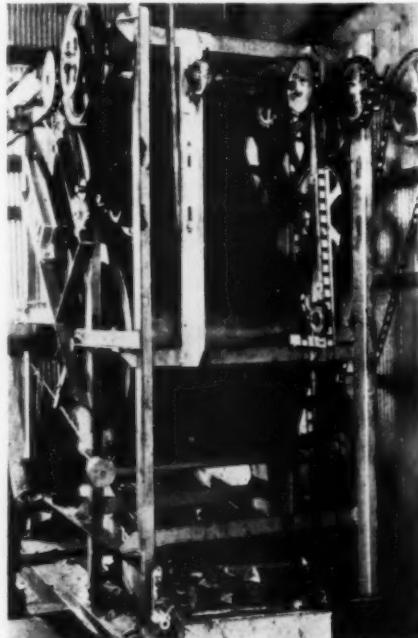
**I**t has been a number of years since citrus oils from Italy supplied more than a small portion of the demand for these products in American markets. Italy used to send in a large portion of the oils used.

Orange, grapefruit, tangerine, and lime oil are manufactured in Florida. Orange and grapefruit oil are manufactured to a small extent in Texas, and orange, grapefruit, and lemon oil are manufactured in California. Considerable quantities of orange oil have been imported from Brazil and from British possessions and these imports are responsible for the somewhat demoralized market for this oil.

The oil is recovered from the flavedo or outer layer of the peel. An emulsion is recovered in a tapered screw press or in massive roller presses, or in special machines. The writer does not know of any of the Italian type machines being used in this country, although they are used in the West Indies for lime oil and in Brazil for orange oil.

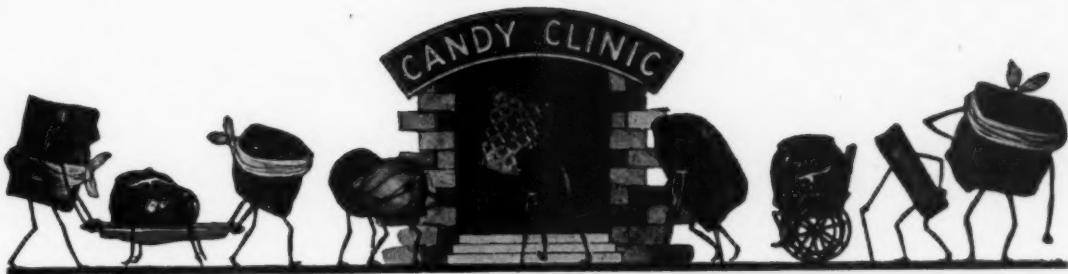
The emulsion is broken up in a centrifugal separator.

These oils are used in the beverage, confectionery, baking, jelly powder, and other food industries. Often they are vacuum concentrated to separate the least stable constituents and the resulting products may be sold as "terpeneless" oils. An oil which may be of increasing interest to the confectionery industry will be tangerine oil because of its adaptability for this type of product.



The photograph with this article shows one of the large roller type presses which have been installed in a number of Flordia plants for several years.

Orange marshmallow filling made from concentrated orange juice or oil shows great promise as a filling for a package confection in a cookie sandwich using a waxy-textured cookie containing brewers yeast, sweet potato flour, peanut butter and other ingredients to give a confection of exceptional flavor and food value.



## THE INDUSTRY'S CANDY CLINIC HELD MONTHLY BY THE MANUFACTURING CONFECTIONER

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus avail- ing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "pre- scripts" of our clinical expert, are exclusive features of THE MANUFACTURING CONFECTIONER.

### *Assorted Gums and Jellies*

#### CODE 8A43

##### Assorted French Gum Drops—1 lb.—**57c**

(Purchased in a department store,  
New York, N. Y.)

##### Sold in Bulk:

Colors: Good.

Texture: Good.

Flavors: See remarks.

**Remarks:** A well made French gum; but pieces lacked flavor. At this price good flavors can be used and a sufficient amount to give pieces a good flavor.

#### CODE 8B43

##### Gum Cherries and Strawberries— 1 lb.—**69c**

(Purchased in Chain Candy Store,  
New York, N. Y.)

##### Sold in Bulk:

##### Cherries—

Color: Good.

Texture: Good.

Flavor: Good.

##### Strawberries—

Color: Good.

Texture: Good.

Flavor: Good.

**Remarks:** Pieces are well made and good eating. The best that the Clinic has examined this year.

#### CODE 8C43

##### Gum Patties and Gums—1 lb.— **69c**

(Purchased in a Chain Candy Store,  
New York, N. Y.)

##### Sold in Bulk:

Colors: Good.

Texture: Good.

Flavors: Good.

**Remarks:** Well made and good eating, trifle high priced at 69c the pound.

### COMMENTS



#### From The West Coast:

MARSHMALLOWS as such, have disappeared from the San Francisco bay region markets and no one is, apparently making any for civilian consumption. A few marshmallow bars were available at a cigar store candy counter. The stand had a pretty fair stock of bars, most of them being items previously unknown in this area, and judging from the wraps, a dubious quality.

\* \* \*

Purchased package of sanded orange slices containing five pieces in orange cellophane wrap, with ends twisted to roughly resemble an orange. Printed slip with name, other data enclosed in wrap. I would not have known the proprietor of this stand had any candy had I not happened to see him pass out a pack to a customer, a tenant in the office building where the stand was located.

\* \* \*

Gums, like marshmallows, are practically non-existent in the San Francisco market. Occasionally I see some licorice—or what passes for licorice—but very seldom. Eastern made gums—Heide's, National Licorice, etc.,—are reaching here in such limited quantities that there are none to speak of.

#### CODE 8D43

##### Assorted Jelly Oblongs—1 lb.— **20c**

(Purchased in a 5c and 10c store,  
New York, N. Y.)

##### Sold in Bulk:

Colors: Good.

Texture: Good.

Flavors: Good. Sanded.

**Remarks:** A good eating jelly piece cheaply priced at 20c the pound.

#### CODE 8E43

##### Small Ju Ju's—1 lb.—**20c**

(Purchased in a 5c and 10c store,  
New York, N. Y.)

##### Sold in Bulk:

Colors: Good.

Texture: Good.

Flavors: Fair.

**Remarks:** Cheaply priced at 20c the pound. Some of the pieces lacked flavor but we can not expect too much at this price.

#### CODE 8F43

##### Assorted Gums—1 lb.—**69c**

(Purchased in a Candy Store, New  
York, N. Y.)

##### Sold in Bulk:

Colors: Good.

Texture: Good.

Flavors: Good.

**Remarks:** Well made gums and good eating but a trifle high priced at 69c the pound.

#### CODE 8G43

##### Brown Sugar Mints—Chocolate Coated—**½ lb.—No Price Stated**

(Sent in for Analysis No. 4409)

**Appearance of Package:** Good.

**Box:** One layer type  $1\frac{3}{4}$ " x  $1\frac{3}{4}$ ". See Remarks. Blue glazed paper printed in brown amber cellulose wrapper.

**Appearance of Box on Opening:** Good. Coating: Dark; Good.

Center: Color; Good.

Texture: Good.

Flavor: Good.

**Remarks:** This is a different mint. We have made cream of brown sugar for many centers but never flavored with peppermint. We can say that this is a good eating mint. Fondant is well made and stood up well from being shipped across the country. Box is large looking for a half-pound package. Package should be a good seller.

#### CODE 8H43

**Assorted Jellies— $1\frac{1}{4}$  ozs.—5c**

(Purchased in a stationery store, Boston, Mass.)

**Appearance of Package:** Good.

Size: Good.

Box: Folding, printed in blue, yellow and red.

Colors: Good.

Texture: Too tough for a jelly.

Flavors: Fair.

**Remarks:** Flavors are not up to the standard of this price candy. Pieces were like gum drops instead of jellies.

#### CODE 8I43

**Chocolate Nut Coated Wafers**

**—1 oz.—5c**

(Purchased in a drug store, Boston, Mass.)

**Appearance of Bar:** Good.

Size: Good.

Wrapper: Inside wax. Outside band yellow, printed in red and brown.

Coating: Dark, with nuts. See remarks. Center: Brittle Cracker.

Texture: Good.

Taste: Good.

**Remarks:** Nuts had an old taste and ruined the taste of the coating. Suggest that the nuts be incorporated into the coating before the cracker is dipped. Cracker is one of the best that the Clinic has examined. Most crackers get soft and are not good eating.

#### CODE 8J43

**Assorted Fruit Drops— $1\frac{1}{4}$  ozs. 5c**

(Purchased in stationery store, Boston, (Mass.)

**Appearance of Package:** Good.

Size: Good.

Box: Folding box, printed in red and blue.

Colors: Good.

Texture: Good.

Flavor: Fair.

**Remarks:** Some of the flavors are too weak. Hard candies should have good strong flavors. Too much acid in the lemon.

#### CODE 8K43

**Assorted Jellies—1 lb.—47c**

(Purchased in a department store, New York, N. Y.)

**Sold in Bulk:**

Colors: Good.

Texture: Good.

Flavor: Good. Sanded.

**Remarks:** The best jellies that the Clinic has examined this year.

#### CODE 8L43

**Nut Nougat Slices—1 lb.—69c**

(Purchased in a department store, New York, N. Y.)

**Sold in Bulk:**

Nougat: Good.

Caramel: Good.

Nuts: Bad.

**Remarks:** Nuts were rancid and could not be eaten. Suggest store check up their nougat slices as these should not have been sold.

#### CODE 8M43

**Assorted Gums—4 ozs.—5c**

(Purchased in a 5c and 10c Store, New York, N. Y.)

**Sold in Bulk:**

Colors: Good.

Texture: Good.

Flavor: Fair.

**Remarks:** Well made gums, but flavors are not up to standard.

#### CODE 8N43

**Assorted Gums—No weight given —5c**

(Purchased in a 5c and 10c store, New York, N. Y.)

**Container:** Light board satchel, brown printed in red, white and blue.

Colors: Good.

Texture: Good.

Flavor: Good.

**Remarks:** The best 5c novelty that the Clinic has examined in some time. Suggest name, address and ingredients be printed on container.

#### CODE 8O43

**Orange Jellies—2 ozs.—5c**

(Purchased in a railroad depot, Chicago, Ill.)

Five jellies in a boat.

Wrapper: Glassine printed in brown.

Color: Good.

Texture: Good.

Flavor: Good. Sanded.

## Mergers and Rationing Regulations

War has reduced the volume of food production. Some businesses, as a result, are combining with each other to maintain profits.

If you merge or buy out a competitor, care is necessary to insure obtaining the other company's sugar allotment or allowable inventory.

Consult us before — not after — you buy or combine with another business.



### B. W. DYER & COMPANY

Sugar Economists & Brokers

120 Wall Street, (5) N. Y., Phone: WH. 4-8800  
Cable: DYEREYD, N. Y.

## - Lecithin -

Patent 1,781,672 is now void and the use of Lecithin in Chocolate is without any Patent restrictions.

"Due to the shortage of shipping containers we are unable to ship in quantities of less than 100 lbs."

Our price and quality are right.

### J. C. Ferguson Mfg. Works, Inc.

130-140 Ernest Street

Providence, R. I., U. S. A.

## CANDY CLINIC SCHEDULE

The monthly schedule of the Candy Clinic is listed below. When submitting items, send duplicate samples by the 1st of month preceding the month scheduled.

- JANUARY—Holiday Packages; Hard Candies
- FEBRUARY—Salted Nuts; Chewy Candies; Caramels
- MARCH—Assorted One-Pound Boxes of Chocolates
- MAY—Easter Candies and Packages; Molded Goods
- JULY—Gums and Jellies; Marshmallows
- AUGUST—Summer Candies and Packages; Fudge
- SEPTEMBER—Bar Goods of all types
- OCTOBER—Home Mades; 5c-10c-15c-25c Packages Different Kinds of Candies
- NOVEMBER—Cordial Cherries; Panned Goods; 1c Pieces
- DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages; New Packages

**Remarks:** A good eating orange jelly.

Flavor could be stronger.

**CODE 8P43**

**Assorted Turkish Paste—1 lb.—  
\$1.00**

(Purchased in a retail store, San Francisco, Calif.)

Sold in Bulk:

Colors: Good.

Texture: Good.

Flavors: Good.

**Remarks:** A good eating Turkish paste but very high priced at one dollar the pound.

**CODE 8Q43**

**Sanded Orange Slices—2½ ozs.—  
5c**

(Purchased at a cigar stand, San Francisco, Calif.)

**Appearance of Package:** Good.

Size: Good.

Wrapper: Orange colored cellulose, printed seal inside.

Five Slices: Color: Good.

Flavor: Fair.

Texture: Tough.

**Remarks:** Suggest flavor be checked up as it isn't strong enough. Check formula as slices are too tough.

**CODE 8R43**

**Assorted Jellies—1 lb.—50c**

### Correction

In the May 1943 issue of THE MANUFACTURING CONFECTIONER, reference was made in the Candy Clinic by the Clinic superintendent, to a candy bar, Code Number 5D43 as a "Nabisco Cracker Bar." The trade mark "Nabisco" was used in error as this item was not a product of National Biscuit Company. "Nabisco" is the registered trade mark of National Biscuit Company and, as such is its exclusive property.

THE MANUFACTURING CONFECTIONER apologizes for the error and offers this correction for the benefit of National Biscuit Company and for Clinic readers.

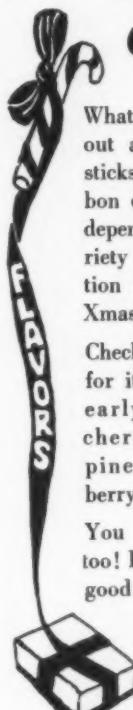
## FLAVORS

### for Xmas CANDY

What is Christmas without assorted candy sticks and colorful ribbon candy? You can depend on Lueders' variety of assorted imitation flavors for your Xmas lines.

Check your stock now, for it is well to order early. We suggest cherry, strawberry, pineapple and raspberry!

You may need colors too! Lueders has a very good selection of reds for those Xmas candies.



Established 1885

**George  
Lueders  
& Co.**

427-29 Washington Street  
New York

CHICAGO SAN FRANCISCO  
510 N. Dearborn Street 54 Main Street  
MONTREAL, CANADA, 361 Place Royale  
Repr. in Philadelphia and St. Louis

(Purchased in a drug store,  
Chicago, Ill.)

**Appearance of Package:** Good.  
**Box:** One layer type, printed in yellow, blue and green, tied with green grass ribbon.

**Appearance of Box on Opening:** Good.  
**Assortment:** Good.

**Opera Gums:** Good.

**Gum Drops:** Good.

**Gum Slices:** Good.

**Gum Ovals:** Good.

**Colors:** Good.

**Texture:** Good.

**Flavor:** Good.

**Remarks:** The best box of assorted gums at this price that the Clinic has examined this year.

**FLAVORS BY DREYER**

**IMIATION CHOCOLATE**

**Flavor G6      \$8.00 Gal**

Used to supplement cocoa in all chocolate products. Information and samples on request.

**P.R. DREYER INC.**  
119 WEST 19th ST., NEW YORK, N.Y.

**Ribbons dress up your Candy Boxes For QUALITY and ECONOMY**

We recommend our Welded-Edge Ribbons All Widths and Colors Immediate Deliveries Samples and quotations upon request.

**National Ribbon CORPORATION**  
79 Madison Ave., New York City



When the war ends, you'll expect wrapping machines that embody new and advanced ideas . . . You'll be most likely to get them from an organization that has kept its wits sharp and its skill at top notch by building, not only *wrapping machines* but new and intricate *armament machines* as well.

Fifty-caliber machine gun bullets, for example, are linked at a speed of 150 per minute by a new machine of our invention and manufacture, which has proved so successful that hundreds of them are now serving the armed forces. Other machines built by us are used for piercing and priming cartridges, loading them with powder and projectile, inserting them into clips, packing them into cartons, etc.

The inventive talent, engineering ability and craftsmanship required for *this type of war work* can very well lead to faster, less costly and more versatile wrapping machines.

*We're ready now to study your post-war wrapping plans.*

PACKAGE MACHINERY COMPANY, Springfield 7, Massachusetts  
NEW YORK      CHICAGO      CLEVELAND      LOS ANGELES      TORONTO

## PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

# Eye Appeal Is Important Because Packaging Quality Builds Sales

By ALLEN K. SCHLEICHER  
*F. J. Schleicher Paper Box Co.*

In preparing this article for *The Manufacturing Conditioner* Mr. Schleicher bears out the statements in the July packaging article that candy manufacturers must maintain attractive packages despite substitutions in raw materials, if they are going to hold onto their present reputations for post-war sales appeal.

Many confectioners have the conviction that their candy, at the present time, can be packaged in any kind of make-shift or under-standard candy box just because these are unusual times. Some are "getting away" with it now when people will buy sweets regardless of the appearance.

This feeling will unnecessarily retard the advancement of the candy industry's past packaging efforts for many years to come and, thereby, be a great obstacle to overcome in the post-war business period unless something is done about changing that attitude now when the danger of that attitude is apparent. Regardless of the fact that we are at war, the good impressions built up by past advertising and promotion will be lost if those impressions are not maintained now.

When Lincoln said, "You can fool some of the people . . ."; etc., he knew what he was talking about. His statement holds just as true in regard to candy packaging as it does to anything else.

In a recent issue of the *Reader's Digest* magazine, the statement of a well-known industrialist was printed in which he said that people were so constituted that they saw only the 10 percent that was wrong about anything but ignored the 90 percent good about it.

#### Consumers Notice Changes

Applied to packaging, this would mean that your customers have built up a desire for a certain type of package because of its appearance. They have associated this package with high quality. Therefore, applying the above rule, you may have the same type of package made of the same materials, but lacking the former distinctiveness and attractiveness, and

your customers will see that "10 percent" wrong part and ignore the 90 percent good. That's why you, as a manufacturer, are striving constantly for higher quality in your candy and in your presentation of the candy.

The quality of candy is always associated with the quality of the box. This is an undisputed fact and it is, therefore, of utmost importance that every effort should be exerted to prevent any chance for a feeling of inferior quality to arise.

In our present war-economy, it is, of course, necessary to comply with all efforts of conservation so that the coming victory will be realized at the earliest possible date. We can all perform this war duty and still have fine candy packages for all the holiday and gift occasions.

There have been several packaging restrictions such as on the use of cellophane, inks and glassine, etc., that have been widely discussed and are well-known, but the war restric-

tions directly connected with the actual box have not been issued at the present writing.

#### L-239 Restricts Packages

Of course, many types of decorative packaging have been discontinued for the duration. Limitation Order L-239, issued early in 1943, has prescribed size specifications for retail set-up boxes and restricted the manufacture of boxes from virgin wood pulp. This, however, does not mean that set-up boxes cannot be used. One company, which makes chocolate bars, has found the use of a package that can be turned into a display box upon opening, an aid to sales.

Any rigid paper box that is delivered in finished form is termed a set-up paper box. This box is designed so that upon receipt by the user, it needs no further processing but can be filled immediately.

Set-up boxes can be handled and

New package, right, adopted by C. S. Allen Company, Webster, Mass., and New York. The contents are the well known selection of Allen's Toffees. Note the cutout initial on the larger box, giving adequate display without the use of transparent cellulose window.



packed speedily and this combination of advantages is utilized in many packages of excellent protection and beautiful design for such merchandise as candy.

The application of fancy papers or specially designed wraps gives an appearance of permanence and beauty to set-up paper boxes.

There is still a variety of beautiful papers available according to reports, despite wartime restrictions. Because of the many possibilities of printing such paper, and its application, many interesting and beautiful decorations can be used with very good effect. This type of decorating of boxes, as long as it remains unrestricted, can take the place of cellophanes, glassines, etc., to good advantage, giving your candy package a good display value and maintaining consumer appeal.

Of course, dummy display boxes have been eliminated but there is still need for more economies and the writer believes that the following would be important contributions to the success of our country in this war.

First, the weight of all candy packages should be reduced.

#### **Adopt Multiple Packing**

Second, multiple packing should be adopted, several one pound, and at least two, two pound candy boxes should be packed in one outside container.

Third, inside findings should be simplified.

These three suggestions will all produce an effective saving in paper board and in turn a saving of manpower, transportation tonnage, etc.

After spending much time, money and effort to create and establish a brand, firm name, artistic design and color scheme on a package, there is positively every reason to continue this effort and to improve on it wherever possible.

The buying public, as has been proven over many years, goes out of the way to get a particular article or service and it is always the one upon which some one or some firm has deliberately tried to make appealing in every way.

These appeals have been to price, style, and quality, not only on the article but on the package. Years of effort can be lost for a long time by unnecessary changes in candy package plans and developments.

People tend to buy on their familiarity with a package or brand name rather than a company name unless the brand and company names are synonymous. Otherwise, they will pick out the package or wrapper that they are familiar with. If they pick such a package and find the quality changed, they will tend to tie up that situation in the future, with the package and then refuse to buy. Or vice versa, if they are pleased with a

package, they will look for that one again and will pass up lesser known ones to get the package that they know.

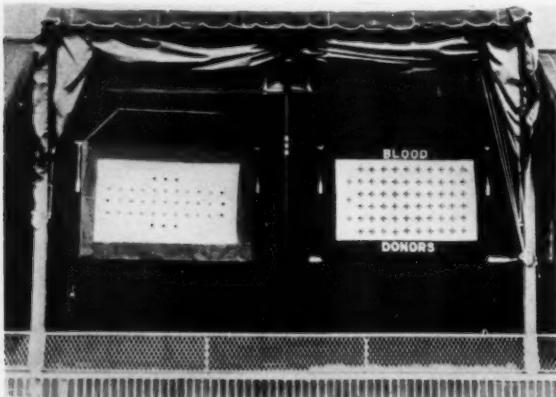
With the constant pounding over the air, in publications and other media, of brand names and packages, each large selling product has been built up to its peak of sales.

#### **Maintain Your Advantage**

Providing something isn't done to maintain the ground gained in past advertising campaigns, this huge amount of money might just as well have been taken out and dumped into the ocean for all the good it would have done. When the seller's market is gone and a buyer's market reigns once more, then is the time that the loss of buyer appeal in your package will be noted.

And when that time comes, it will be the manufacturer who gets there "fustest with the bestest" packages and quality candy, who will rake in the blue chips, because he will have been the manufacturer who has prepared in advance by not letting his product appeal lag behind just because of war conditions.

Substitutes need not mean the loss of all value of packages for display purposes and selling appeal. It has been pointed out with specific examples, in the past, again and again that manufacturers who meet the situation with intelligence and imagina-



Blood Donor Flag Presented

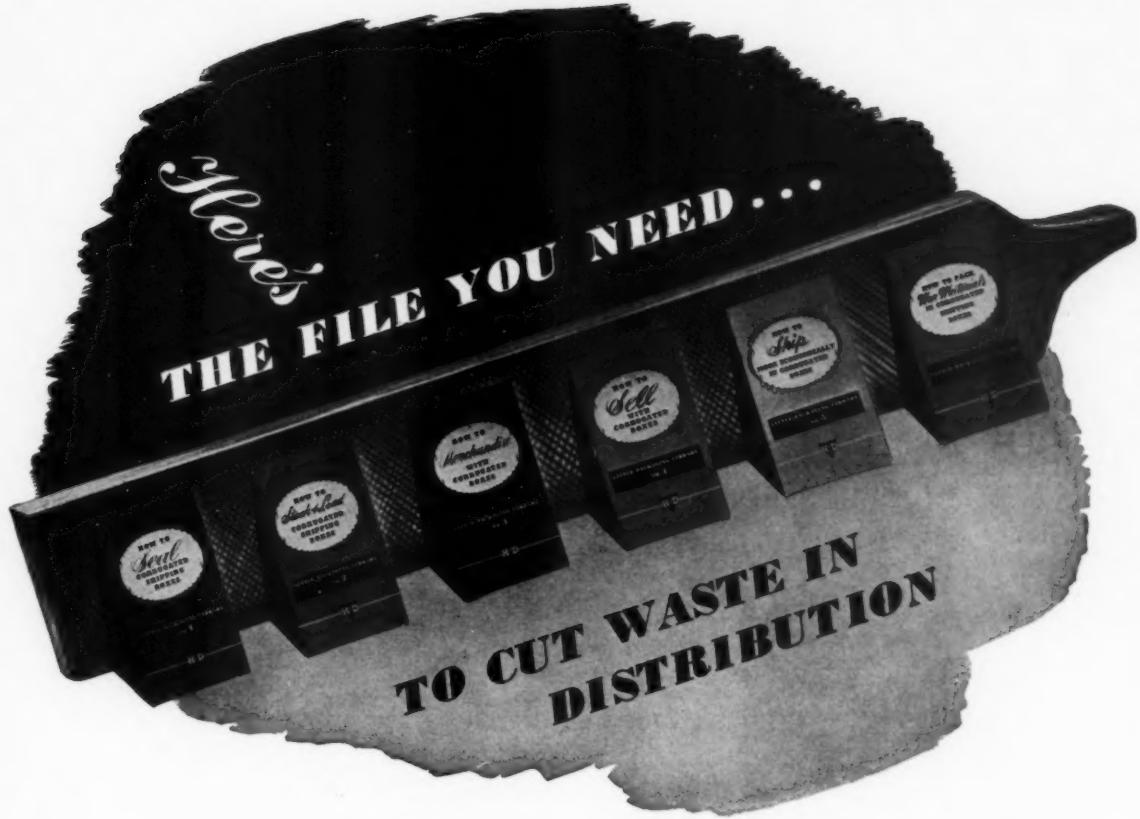
A Somerville, Mass., nut products plant, has sent in the accompanying photo of the new Blood Donor's Flag beside the company service flag. These donor flags are sponsored by the American Red Cross. The letters are white, the border navy blue, the field white and the crosses red. The latter represent the number of blood donors who have patriotically given their blood to save the lives of our boys on the battle front. The purpose of the Blood Donor Flag is to enlist further contributions to the Blood Bank in your community, now so urgently needed, and at the same time to recognize with gratitude those who have already made their gift of blood.



View of modernly equipped experimental kitchen recently added to the extensive laboratory facilities of Food Materials Corporation, makers of flavoring materials, such as vanilla extracts and other types of flavors. These young ladies are at work in the new kitchen showing its good arrangement and spotless cleanliness.

#### **Pulp and Paper Meeting**

A. E. Montgomery, of the J. O. Ross Engineering Co., Chicago, is chairman of the Chicago arrangements committee planning for the Wartime Conference and exhibition of the Technical Association of the Pulp and Paper Industry to be held in the Palmer House, Chicago, September 21 to 25.



**H**IT'S HANDY . . . it's helpful . . . it has dozens of applications in hundreds of businesses. It will help you smooth out rough spots in packing, shipping and distribution, give you an edge in efficiency.

There's no time like the present to make use of this tool. The enormous load being carried by the railroads means inevitable waste of materials, machinery, manpower and transportation facilities. That waste can be curtailed

only if every manufacturer takes immediate steps to improve shipping methods.

The first step is to send for this complete file of packaging "text-booklets." Every man in your organization who is concerned with shipping and distribution will find this "refresher course" in packaging a definite aid in locating and correcting many of his problems. Write for as many sets as you need . . . they're yours for the asking, FREE, without obligation.

# Protect the Product

BETTER SEE  AUTHORITY ON PACKAGING

WAR BONDS pack  
a punch. Buy  
them regularly.

**HINDE & DAUCH** Executive Offices: 4359 Decatur Street, Sandusky, Ohio

FACTORIES in Baltimore • Boston • Buffalo • Chicago • Cleveland • Detroit • Gloucester, N. J.  
Hoboken • Kansas City • Lenoir, N. C. • Montreal • Richmond • St. Louis • Sandusky, Ohio • Toronto

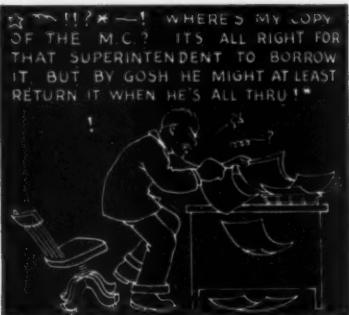
RIBBONS by TAFFEL

Ribbons dress up the candy box... Carry out YOUR ideas with TAFFEL RIBBONS and you'll increase sales. Samples and prices on request. Send for free instructive booklet.

TAFFEL BROS., INC.  
95 Madison Ave. New York, N. Y.

CANDY TIED WITH  
RIBBONS — Means More Sales  
We have instant stock in the Middle West  
Satin—Messaline—Tinsel—  
Novelty Ribbons—Rib-O-Nit—  
Ready-Made Bows—and Rosettes.  
Immediate Delivery  
R.C. TAFT CO.  
129 W. RANDOLPH ST. CHICAGO

"WERTHY"  
TRADE MARK REG.  
RIBBON SPECIALISTS  
Large Range of Ribbons  
For Candy Packages  
Gauze Ribbons—Satin and  
Novelty Effects—Ribbons  
and Patriotic Ribbons  
"Where quality merchandise  
Costs no more!"  
W-E-R RIBBON CORP.  
440 Fourth Avenue New York, N. Y.



THE MANUFACTURING CONFECTIONER  
400 W. MADISON ST.

tion are the ones who are still turning out highly acceptable packages despite the loss of such wonderful display materials as cellophane, glassine, and all the rest.

Your package manufacturers will also be glad to work with you in the production of better and more interesting packages despite substitutes.

The candy industry and the set-up box industry should work in close cooperation during these times so that everything can be done to maintain, so far as possible, the present quality, style and type of packages that have been associated by your customers with quality candy.

#### Holidays Are Important

The position of the candy industry must, of necessity, be maintained in the gift field for the commemorative days such as Christmas, Easter, St. Patrick's Day, Valentine Day, Mother's Day and other holidays. The future success of the package candy business depends on present efforts.

If we would stop for a moment to investigate what some other products are doing to maintain their identity, it might lead to some profitable ideas for the confectionery industry or at least, point out the way in maintaining appeal despite substitutions.

Take for instance, the cigarette industry which is always competing with the confectionery industry for a large portion of the consumer's so-called luxury-dollar-percentage. In other words, for that part of the consumer's dollar that can be spent for his own enjoyment over and above the necessities of life.

For the first example, let's look at

the case of a popular brand of cigarettes, whose package was deprived of the green color that was so well known to its users. So the slogan, "green goes to war," made its immediate appearance, and whether it had any basis in fact or not, it immediately centered the attention of the buying public upon the new white package with the red spot. Nothing was lost in package appeal, and in fact, much was gained in maintaining sales appeal.

Other examples of a change or substitution in packaging are the new *Esquire* and *Coronet* magazines, both of which are now printed on a much lighter weight paper than formerly. But in both cases, nothing has been lost in "package" appeal because of the change. If anything, they have made this substitution improve their appearance and attractiveness.

#### Cases Prove a Point

These cases do prove that substitutions do not need to mean a loss of sales. In fact, properly exploited, they may mean an increase. But be that as it may, they do mean that the product involved won't be forgotten by its users and it won't lose a thing in eye appeal either.

Examples without end could be quoted to prove the point of this article, that you must keep up your reputation for quality and for attractive presentation if you would maintain your business after the war. There are examples within the industry in great numbers which also bear out this contention. So build now for the post-war selling race. Be on the starting line and on your toes and you won't be left at the post.

# THIS HAPPEN TO YOU?

Don't cuss! You can avoid this by having your "M.C." sent to your home. Then you will always know where it is when you need and want it.

#### PRICES

1 year .....	\$3.00
2 years .....	\$5.00

(Enclose check with order)

#### MANUFACTURING CONFECTIONER

400 W. Madison St., Chicago

YES, here's my check. Send the "M.C." to my home. I'll fix those guys!

Name .....

Company .....

City..... Street..... State.....

# Prepare For Your POST-WAR SALES RIGHT NOW!

Advertise  
in →

## COMPLETE MARKET COVERAGE

*You Reach . . .*

**Jobbers  
Syndicates  
Food Distributors  
All Types of Chains  
Grocery Distributors  
Large Retail Buyers  
Army Post Exchange  
Navy Post Exchange  
Marine Post Exchange**

No Other Publication  
Reaches All of  
These Groups

## THE CANDY BUYERS' DIRECTORY

1944

Don't wait for "something to happen," or sit back and hope for "a lucky break." Make your own "luck" and your own opportunities for big sales when the war is over.

Be in on the ground floor. Your golden key to the ground floor is your advertisement in the CANDY BUYERS' DIRECTORY! Your name will be remembered. Your product will be remembered. The two will be vital links in a chain of thought that will lead the buyer right to your door.

Maintaining your identity is the thing. Keeping your sales story fresh in the minds of your customers should be one of your first and biggest war problems. And you can solve that problem with DIRECTORY advertising. When a buyer wants to buy, he turns to the DIRECTORY and refreshes his memory on who sells what.

When he loses his copy he comes back for another one because its an integral part of his business. That means that the DIRECTORY is constantly on the job to protect your interests, to keep your name before the prospective purchaser, to act as your sales force for the duration and to pave the way for your salesmen after the war.

Your appearance in the CANDY BUYERS' DIRECTORY is assurance that you have taken your place among the members of the "Who's Who" of the candy industry.

Its background of careful preparation, trade usage, and publication excellence enhances the prestige of the advertisers within its covers.

Let the CANDY BUYERS' DIRECTORY go to work for you. Let it handle your selling problems for the duration. You can count on a good job being well done. You'll be ready to take a leading spot when the post-war selling race is on.

*Write Now for Rates and Information*

## THE CANDY BUYERS' DIRECTORY

400 W. Madison St., Chicago, 6 — 303 W. 42nd St., New York, 18

## Candy is Morale Builder On North African Front

The following letter from Lt. Lewis A. Parker, Jr., was published in the Lamborn Report recently. Lieutenant Parker writes from North Africa:

"One of our fondest dreams here is about eating pie and ice cream. My own personal choice would be an entire juicy blueberry pie absolutely smothered with ice cream. I am happy to tell you that they are fairly liberal with us in the matter of sugar and candy. Of course, we don't get all that we crave and it seems to me that the harder we work the more we crave sweet things.

"We, over here, realize that we are over 3,500 miles from home and that it is hard to supply all of the troops the way they would like to be supplied. We also realize that the people at home are making the sacrifice necessary so we can have the amount of sugar that we now receive. Sugar is one of the most necessary foods that we have over here and it gives the energy to perform our vigorous activities.

"As for candy, if there were more candy available, it would all be consumed. Candy and all of the different types of gum and chocolate that we can buy are the best morale builders that the government has yet produced. I cannot stress too much the value of the morale in any Army. If the Post Exchange is even one day late, you can hear the grumbling start all over the entire bivouac. When the supplies finally arrive, the men are again happy and they go around with a smile on their faces. You can really tell the difference.

### Sweets Vitally Essential

"If anyone takes the few sweets that the soldiers receive, and says that they are not essential, I would like for them to join the Army and live out in the open without a bath, without being able to sleep in a bed, without enough shade to hide a peanut, and then see what they think about how nice it is to get a candy bar, cup of coffee, or a piece of chewing gum. They would soon change their minds. I am sure that I wouldn't want to be responsible for taking anything away from the men that are protecting what they love and what they live and die for. That nickel candy bar is worth more than money over here."

Another letter from the North African front from Cpl. Henry C. Zech also illustrates the morale building factor of candy on the battlefield. He writes:

"Received your welcome letter and it was very thoughtful to send me the candy. Up until quite recently, candy has been at a premium around these parts. When we first got over here, the fellows would have given most anything for a good candy bar from the United States but they just weren't to be had.

"Later on, we were issued a daily ration of candy which amounted to one ounce per man per day and they were the life-saver type. Candy is extremely scarce over here as far as the local population is concerned due, I imagine, to the scarcity of sugar. The natives are always begging for "bon bon" or candy. Since I have been over here, I haven't seen any kind of candy that you could call native candy but they may have some, although I doubt it.

### Get Some Chocolate Bars

"For some time now, we have been able to purchase candy once a week from the company Post Exchange. They have quite a variety of candy available in limited amounts, of course. We have been able to get a few

Mr. Ody H. Lamborn, whose article last month discussed the problem of government control of sugar is one of the new members of the Sugar Research Foundation and an untiring worker for the sugar industry.



chocolate bars but there is mostly the hard candies to be had. I suspect that perishability is the reason why they don't send us more. Whatever we can buy is reasonable enough as it is about 40 per cent cheaper than in the United States. All of the candy that we can get, comes from the United States. I have had the opportunity to taste the candy that the British include in their rations and it is very much similar to our own hard candy.

"Thanks again for the candy, as little presents like that mean quite a lot to us over here."

### Chemical Formulary (A Book Review)

By H. Bennett, Volume VI, 640 pages, \$6.00. Completely new, latest formulae, processes. Methods to use in the preparation of marketable products. Whether you are a chemist, engineer, manufacturer or layman, whatever your manufacturing problems may be, you are sure to find the answer here.



Mr. C. H. Hoagland, retiring president of the Southern Salesmen's Candy Club. Mr. Hoagland is being succeeded by R. S. Barclay, Atlanta.

### Restrict Egg Storage

The WFA has tightened reservation and non-storage provisions on shell eggs to assure availability of sufficient quantities for the armed forces, essential civilian needs, and wartime requirements for dried whole eggs. Dealers, wholesalers, and other distributors may not keep shell eggs in storage after June 1, with the following exceptions: (1) to cover existing contracts with government agencies for the production of spray dried whole eggs, and (2) a small specified volume of eggs may be accumulated and held for the "working inventories" of dealers, wholesalers, and others. The amended order also provides that no eggs may move into storage after May 20.

## Candy vs. Thirst How Candy Helps

The Army Quartermaster Corps has developed a new life-raft ration of hard candy to help prevent death from thirst and starvation among those men whose ships have been torpedoed. Despite popular belief, sweets—although they create a temporary throat thirst—help the body burn up its fats for energy without causing undue dehydration.

If the normal intake of food is cut, the body then begins to consume its own fats. Therefore, a man with plenty of fat could live on a lot less food if he has plenty of water. To be converted into energy, the protein of meats needs more water than sugars, and fats metabolize better with an abundance of carbohydrates, therefore, the value of candy. Moreover, hard candy is converted up to 60% into water during metabolism, thus adding a small amount of liquid to a man instead of taking some away.

Army doctors have said that fat men carry more fuel on them and that they stand a better chance of survival than do thin men when shipwrecked.

The Quartermaster Corps reports that practically every candy company in the country has a contract for supplying candy to the Army. Life Savers, Henry Heide, and Cracker Jack won the Army & Navy E this spring, and Hershey has had one since last August.

Candy is included in every special ration issued by the military, partly for its morale value but chiefly because it is such concentrated energy. The Logan or D bar, original emergency ration, contains four ounces of chocolate, sugar, skim-milk powder, cocoa fat, oat flour, vanillin, and 250 units of vitamin B<sub>1</sub>.

Largest purchaser of food in the world, the Quartermaster Corps buys enough candy to give each man 18 pounds a year, including about 3½ candy bars per man per month, 11 one-ounce packages of hard candy, and eight packs of gum.

### CONFECTIONERY BROKERS

DONALD A. IKELER

2029 E. Main Street  
KALAMAZOO, MICH.  
Territory: Michigan

H. L. BLACKWELL COMPANY

Emery Way at Sunset Drive

EL PASO, TEXAS

Territory: Texas, New Mexico  
and Arizona

JOHN T. BOND & ASSOCIATES

637 S. Wilton Place  
Phone: Federal 6028  
LOS ANGELES, CALIF.  
Territory: Pacific Coast

HARRY LYNN

Candy Manufacturers Representative  
1511 Hyde Park Blvd.  
CHICAGO, ILL.

Territory: Chicago and Milwaukee Areas  
Illinois, Indiana, Southern Wisconsin

# IDEAL WRAPPING MACHINES

## FAST-EFFICIENT RELIABLE

CANDY manufacturers both large and small prefer IDEAL WRAPPING MACHINES because they provide the economies of fast handling along with dependable, uninterrupted operation. In use the world over, IDEAL Machines are building a service record that stands unmatched and unchallenged! Our unqualified guarantee is your protection. Two models available: SENIOR MODEL wraps 160 pieces per minute; the new High Speed Special Model wraps 325 to 425 pieces per minute. Investigation will prove these machines are adapted to your most exacting requirements.



WRITE FOR COMPLETE SPECIFICATIONS  
AND PRICES

IDEAL WRAPPING MACHINE CO.

EST. 1906

MIDDLETOWN, N. Y.

U. S. A.



### Reprints . . .

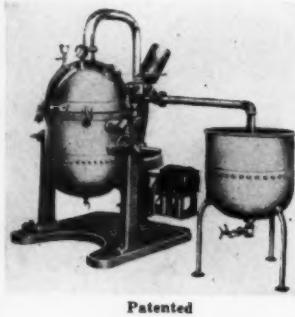
of articles appearing in *The MANUFACTURING CONFECTIONER* may be obtained in quantities of 100 or more for the cost of printing. Useful for mailing to your customer list, or any others whom you may wish to interest in the subject covered. Write for prices to:

**THE MANUFACTURING CONFECTIONER**  
400 W. Madison St.  
Chicago, Ill.

**MEET THE CORN SYRUP  
SHORTAGE EMERGENCY**  
*by*  
**The SIMPLEX Way**

HARD CANDY . . . All Pure Sugar . . . or Any Combination of ingredients cooked perfectly with

**The Simplex Vacuum Cooker**



Patented

Furnished for Steam or Gas fuel.

Write for detailed information.

Manufactured by

**VACUUM CANDY MACHINERY CO.**

15 Park Row New York

(Also special units for Cream fondant)

A few rebuilt units are now available — orders for new machines being entered for post war delivery. Hard Candy made in the "Simplex" Vacuum Cooker is highly lustrous, drier, whiter, keeps lustre longer and has a more satiny texture and finish. The "Simplex" is particularly versatile—any size batch from 25 to 200 pounds can be cooked alternately, as desired, and the ingredients or type of candy varied when necessary without the loss of time.

**Bibliographical Survey of Solid Adsorbents**

By Victor R. Deitz, Research Associate, National Bureau of Standards. Publishers: U. S. Cane Sugar Refiners Research Project, J. M. Brown, Chairman, Reserve Sugar Refinery, 333 Medford St., Charlestown, Mass. About 900 pages. First edition, 1943. Price, \$12.00.

THE scope of adsorption is so various and prolific that all books on the subject are necessarily confined to special problems. This survey, covering 6,002 contributions to the scientific literature, was planned to enable one to scan, if not the whole field, at least the material overlapping that of some immediate interest.

The subtitle of this volume is "An Annotated Bibliography of Bone Char, Activated Carbons, and other Technical Adsorbents from 1900 to 1942, inclusive." The abstract given with each entry was obtained from one or more of the following sources: (1) The original publication, (2) Chemical Abstracts, (3) British Chemical Abstracts, (4) Science Abstracts, (5) Zentralblatt.

The volume is divided into seven chapters: I. Adsorption of gases and vapors on solid adsorbents; II. Adsorption from solutions on solid adsorbents; III. Thermal effects in adsorption processes; IV. Theories of adsorption; V. Purification of sugar and other applications of adsorbents; VI. General information on adsorbents and special methods of investigation; VII. Preparation of carbon adsorbents. Each chapter has numerous pertinent subdivisions and the literature is entered chronologically, but alphabetically for any particular year.

There is a complete author index and a large and useful subject index, the latter being designed for cross-indexing utility. A tabulation is given of the abbreviations used for the journal references.

**Chocolate as Ambassador-of-Good-Will**

Distribution of American chocolate and cigarettes to fighting men on the Russian battlefronts is playing a major part in extending good-will between the United States and the Soviet, says a dispatch from Moscow. Many Red Army men have requested that personal messages be sent back to the senders.

**The PACKAGING CATALOG (A Review)**

The new 1943 Packaging Catalog furnishes a year and a half of packaging goods news for war, and under wartime conditions. The new volume features illustrations of the many ingenious packages developed to pack munitions, soldiers' and sailors' rations, ordnance, and civilian supplies. The many substitute containers and packaging materials, especially developed to meet wartime shortages, are also illustrated and analyzed in thorough-going detail. Size of Book: 633 pages, cover size 9" by 12", leatherette bound, price \$2.50. Packaging Catalog Corp., 122 E. 42nd St., New York 17, N. Y.

**Practical Emulsions (A Book Review)**

By H. Bennett, F.A.I.C., Editor-in-Chief of the Chemical Formulary, Practical Everyday Chemistry, Standard Chemical and Technical Dictionary, Substitutes. 1943-452 pages—price \$5.00. Practical Emulsion overcomes the greatest drawback to the increased use of emulsions, namely, the lack of a proper understanding of the technique and formulation that is necessary to produce a good emulsion. While theoretical aspects are dealt with to a certain degree, they are given simply for the better understanding of the more practical uses and methods of the manufacture of emulsions.

**REPRINTS OF ARTICLES**

Reprints are available of a number of articles which have appeared in THE MANUFACTURING CONFECTIONER. They compose a large portion of the current literature of the Industry. Many manufacturers find them suitable to accompany sales messages and also to add to their library of information on the candy and chocolate industries.

Now available are the following:

- Improved Methods in the Manufacture of Fondant Goods**  
By H. S. Payne and J. Hamilton, Carbohydrate Laboratory, Bureau of Chemistry, U. S. Dept. of Agriculture 20c
- The Purpose of Conching Chocolate**  
By Robert Whymper and Charles Shillaber ..... 20c
- Fat or Lean Coatings?**  
By Robert Whymper ..... 10c
- Candy Maker's Place in Manufacturing for Retail**  
By George A. Eddington ..... 10c
- Vitamins in Confectionery**  
By Norman F. Kennedy ..... 20c

**THE MANUFACTURING CONFECTIONER**

400 West Madison St.

Chicago, Illinois

# THE MANUFACTURING CONFECTIONER'S CLEARING HOUSE



## MACHINERY FOR SALE

**EQUIPMENT FOR SALE:** 1 National Equipment fully automatic wood mogul, reconditioned in 1941 by Savage Brothers, and used only a few months since, 20 pump depositor, motor driven; 1 National Equipment marshmallow beater, belt drive; and 1 Brach Cutter, with stand, with motor drive, less motor. Address H-8431, c/o THE MANUFACTURING CONFECTIONER, 400 West Madison St., Chicago, Ill.

**FOR SALE:** Two 6 ft. Yorke Batch Rollers, One Heater Board, and One Hildreth Twin Puller Form 6, Style R. Address The Bailey Manufacturing Co., Oklahoma City, Okla.

CANDY DEPOSITOR COMPLETE  
—with 14 tits—Pneumatic Pump—  
Chain Carrier ,etc.—Fine shape—worth  
\$1200.00 for only \$400.00; also, 5 bag  
Peanut Roaster—Cooler, Blower, Ele-  
vator Hopper, Complete, worth \$4,-  
500.00 now priced only \$1400.00. Also  
one grinder and motor worth \$450.00  
for \$210.00. Address J. B. Robinson,  
1387 W. 9th St., Cleveland, Ohio.

New and used steam jacketed copper kettles, various sizes, attractive prices and good deliveries. Address F-6436, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**FOR SALE:** 1 Package Machinery Sucker Wrapper; 1 Each Package Machinery Model K and KD Kiss Machines, with motors; 2 Hildreth Pulling Machines, No. 6, double arm, 200-lb. capacity, motor driven, and 2 Hildreth Pulling Machines, display models, 10 to 25 lb. capacity; 3 American Candy Pullers, factory sizes, 100-lb. capacity. Address C-3437, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

## **FACTORIES WANTED**

WANTED for cash on the spot a candy factory with not less than 1000 bag per year sugar quota. Equipment and good will not of much importance. Address C-3431, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

## MISCELLANEOUS

A SMALL combination manufacturing wholesaler and retail store in a defense area of 200,000. Only exclusive candy manufacturer in town. Fully equipped, includes sugar and chocolate quota. Established 12 years. If you know the business, real money can be made. Owner wishes to leave town. Reasonably priced. Address G-7439, c/o THE MANUFACTURING CONFECTI-  
ONER, 400 West Madison St., Chicago, Ill.

**BLANK PUNCH BOARDS**—from  
600 to 1500 size. State quantity and  
price. Address: Post Office Box 860,  
New Orleans, La.

**WILL BE GLAD TO CONSIDER**  
**AN INTEREST** in a substantially  
sound factory in the middle west.  
Small or medium size. I know my  
plan of operation and distribution will  
realize more profit per pound. Address  
F-6433, c/o THE MANUFACTURING  
CONFECTIONER, 400 W. Madison St.,  
Chicago, Ill.

WANTED—Job Lots—Corn Syrup,  
Other Syrups, Nuts, Fruits, Albumen, Cellophane, Miscellaneous Supplies. Highest Cash. Cramer, Box 644, Frederick, Md.

## MACHINERY WANTED

## **EQUIPMENT WANTED!**

You can perform a war time service by putting every idle machine back to work! We have jobs for idle equipment in plants doing war work. Wire collect what you can offer.

**UNION STANDARD  
EQUIPMENT CO.**

**MACHINERY WANTED:** Model M  
Dye Pop Machine wanted. State  
when purchased and lowest cash price.  
Address H-8432, c/o THE MANUFAC-  
TURING CONFECTIONER, 400 West  
Madison St., Chicago, Ill.

## MACHINERY WANTED

# **WANTED:**

**Pop**  
**Wrapping Machine**

**State Cash Price,  
Age, and Serial  
Number of Machine.**

**E. ROSEN COMPANY**  
296 Charles St.  
Providence R. I.

MACHINERY WANTED: Fully automatic steel mogul wanted. State when purchased and lowest cash price. Address H-8433, c/o THE MANUFACTURING CONFECTIONER, 400 West Madison St., Chicago, Ill.

**WANTED:** Racine, quick-change  
caramel cutter. Address H-8434,  
**THE MANUFACTURING CONFECTIONER,**  
400 West Madison St., Chicago, Ill.

ONE OR MORE 5 ft. Dayton  
Cream Beaters. Must be in good  
condition. Top cash prices paid Ad-  
dress G-7431, c/o THE MANUFACTUR-  
ING CONFECTERER, 400 W. Madison  
St. Chicago Ill.

Rost or Baker Perkins Hard Candy Cooker. Baker Perkins Cutting & Wrapping Machine. Forgrave Wrapping Machine, Rose Wrapping Machine, Rost Plastic Machine, Hohberg-er Ball Machine. Address G-7438, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

Machinery Wanted—A starch cooler  
and dryer. Address E-54317, c/o  
**THE MANUFACTURING CONFECTIONER,**  
400 W. Madison St., Chicago, Ill.

CUT ROLL MACHINE for making Hand Roll Centers. Must be in good condition. Advise best price. Address 6434, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

## THE MANUFACTURING CONFECTIONER'S CLEARING HOUSE

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### MACHINERY WANTED

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**WANTED:** A cream beater, about 100 gallon capacity. Address E-54313, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Illinois.

Wanted to purchase for cash the following equipment: Automatic Nougat Cutter, 50 Gal. Double-action Tilting Steam Kettle, Motor driven, Enrober 16", Two-way Caramel Cutter, Nougat Beater, and Aluminum Molds. Give Full details, price, and where equipment may be inspected. Interested only in new type equipment in A-1 condition. Address E-54314, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Illinois.

**Machinery wanted by manufacturer:**  
Hildreth Motor-Driven Form 6 Puller; Simplex Vacuum Cooker with Extra Kettle; Brach Cutting Machine with Complete Set of Rolls for Hard Candy, and with Tunnel; Batch Warmers. Prefer location on West Coast. Please give full description of condition. Price wanted. Address E-5431, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Illinois.

**MACHINERY WANTED:** 1 Model K.D. Kiss Machine. Address E-54316, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**MACHINERY WANTED: UR-**  
**GENTLY WANTED:** Copper Coating Pans and Vacuum Pans; Tablet Machines; Dryers and Mixers; Jacketed Copper and Aluminum Kettles. Describe fully and quote prices. Address A-1433, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison Street, Chicago, Ill.

**WANTED:** Steel or wood moguls, automatic ball machines, and starch dryers. Interested in modern equipment in good operating condition. Give full details, price, and where equipment may be inspected. Will pay cash and remove immediately. Address C-3436, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

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### HELP WANTED

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**HELP WANTED:** Enrober man capable of handling three enrobers. The position is steady and will continue so after the war. Address H-8435, c/o THE MANUFACTURING CONFECTIONER, 400 West Madison St., Chicago, Ill.

**HELP WANTED:** 2 Chocolate dippers for hand dipping. Excellent salary. Steady employment for the year around. For further details address The Moderne Confectionery, 110 West Washington Ave., South Bend, Ind.

**HELP WANTED:** Man experienced in the manufacture of hard candy, who would be willing to travel out of the country, to operate complete plant. Address H-8436 c/o THE MANUFACTURING CONFECTIONER, 400 West Madison St., Chicago, Ill.

**CANDY MAKER—NEW PROD-**  
**UCTS DEVELOPMENT:** Wanted experienced candy maker with experimental temperament, to develop new products using new ingredients. State age, experience, education and salary. Address G-7432, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**WANTED:** By well known concern, man with practical candy making experience and some engineering ability who can take charge of new plant layouts and modernization plans for small and medium size candy plants. Wonderful opportunity for right man. Address G-7433, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**WORKING SUPERINTENDENT** for middle-sized high-class plant in New York City, manufacturing hard candies and chocolates. Steady employment, adequate salary with assured advancement for qualified man. Write full details. Address F-6432, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**ENROBER MAN,** steady job in New York. Give full details regarding experience, salary expected, age, in first letter. Address, F-6437, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

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### HELP WANTED

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#### SUPERINTENDENT WANTED—

For moderate sized manufacturing plant in the East. This is a permanent position with a splendid opportunity for the "right man." He must have a thorough knowledge of candy making, production and labor management, and equipment. Good salary. Write full details, state qualifications and experience. Address G-7437, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

We are looking for a working Superintendent who is now working but feels he is not recognized or paid on the basis of his ability and services. We are prepared to pay you well and have you part of a substantial firm located in Western Penn. Write giving age and experience. Address F-6435, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**CANDY MAKER WANTED:** All around man for steady employment, not just a war job. Prefer man over 50 years of age. Good pay. Ellene Candy Company, Monroe, Louisiana.

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### POSITIONS WANTED

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**FACTORY SUPT.—** Wishes to make change. All around candy maker competent to assume full responsibility for your plant. Now using numerous substitute materials in a satisfactory manner. Prefer a mid-west concern making bar and bulk items. Address H-8437, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**A-1 CHOCOLATE COATING**  
**SALESMAN** Executive Type, outstanding record; excellent following among all users of coatings, liquors, cocoa, cocoa butter, in Chicago and Middle West. 17 years one firm. Best of references. Address H-8439, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.



## THE MANUFACTURING CONFECTIONER'S CLEARING HOUSE

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### POSITIONS WANTED

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**CHIEF** Chemist, superintendent, bio-chemist, bacteriologist, licensed milk analyst. American Chemical Society member with experience in all types of candy, ice cream, flavors and packaging products, plant management, personnel, and costs. Successful research record. Address H-8438, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**SUPT., ASS'T., or FOREMAN** by a practical candy maker who has had over 32 years of broad experience in hard candy, creams, gums, jellies, marshmallow, pan work, and solid chocolate, both cheap and high grade goods; who understands costs thoroughly and all types of machinery and knows how to handle help to get the best results. Age 46, married, doesn't drink. Would like to make a change by Aug. 1st or sooner. Address G-7435, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**FIRST CLASS** all around retail candy maker desires change. Strictly sober, married, age 50, exempt from military service. Clean and conscientious workman. Thoroughly experienced on a diversified line of goods for the better retail trade. Chocolate centers of all descriptions, bon bons, caramels, patties, jellies, brittles, toffees, fudges, divinity, plain hard candies, chews and kisses, counter goods, specials, etc. Job must be worth \$75 or more per week and steady. Available in 30, 60, or 90 days. If you need good, reliable and efficient help, please contact me at once. References, details, address G-7434, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

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### POSITIONS WANTED

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**SUPERINTENDENT or PRODUCTION MANAGER** desires permanent connection with reliable manufacturer. General line or specialties. Twenty-three years experience in candy manufacturing, eighteen years of which have been in the above capacities. Experienced in all phases of the business and familiar with all modern equipment. Address E-5435, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Illinois.

**PERSONNEL DEVELOPMENT:** A superintendent with a sound training and background as a practical and technical candy man, has by actual contact experienced the procedures and methods adopted and results accomplished in this and other large food industries with the development of successful Personnel management. Present and future labor regulations and conditions, require the tact and experience to efficiently handle all matters of Industrial Relations, good knowledge of personalities; the faculties to determine the talents of and the ability to properly teach the employee to really fit the job; the will to create interest with the individual, to further stability and quality. These are among the economic factors, that establish better workmanship enthusiasm and permanency. The advertiser is qualified to direct and convey value to your organization. Knows this business, both production and administrative ends. Good connection, moderate salary desired. Address F-6431, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**SUPERINTENDENT:** An able man, with a background, that embraces the training necessary, to successfully cope with all the phases of production and its problems. An executive and a practical candy maker, that has considered and applied in detail the relative factors and affiliations of all raw materials and their composite values, to operating costs and quality standards, up to the point of consumer require-

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### POSITION WANTED

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ments. Has the tact and experience to intelligently accept orders and to train and direct plant personnel, in accordance with present and future labor requirements; to create interest and good performance among employees. Appreciates the value of equipment care and its capacity. Fully experienced with package goods, general lines, bars, specialties and chocolate coatings. Good records available. Interesting connection with moderate salary, desired. Correspondence accepted in strict trust. Address E-5433, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

**Position Wanted:** Supt. of small plant desires to make a change. 30 years with present Co. Age 50 years. Prefer middle west or west coast. Address E-54310, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Illinois.

**WANTED—Position as foreman or superintendent.** Prefer midwest. Thoroughly experienced in general line and bar goods. Can furnish good references. Available at once. Address E-54312, c/o THE MANUFACTURING CONFECTIONER, 400 W. Madison St., Chicago, Ill.

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